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# New patent rules drive Indian drug firms to research

An international patent agreement that goes into effect on 1 January 2005 is compelling Indian drug companies to pump money into research and development (R&D), strike alliances with companies abroad and seek innovative ways to stay in business. The new law could have far-reaching consequences for many important medicines, including antiretroviral drugs for HIV/AIDS in developing countries.

According to the World Health Organization, India is the fourth largest producer of pharmaceuticals and 66.7% of its exports go to developing countries. India is also the world's leading supplier of generic medicines.

India has maintained low drug prices because of a law that allowed its companies to produce cheaper versions of patented products. But those days ended with the country's entry into the Trade-Related Aspects of Intellectual Property Rights (TRIPS). The treaty requires India and some other countries to recognize product patents and stop selling imitations.

An internal study by the Indian government estimates that, in the antibiotics sector alone, TRIPS will create a $713 million loss to the local economy and $57 million in profits to multinationals each year. Indian pharmaceutical companies are rushing to stave off loss by shifting from business-driven research to research-driven projects. "Indian drug firms can survive only if they have new drugs in their intellectual property pipeline," says Sudhakar Bangera, head of clinical research of Hyderabad-based Asian Clinical Trials Pvt Ltd.

In November, Nicholas Piramal India Limited launched a $25 million R&D facility. In September, Mumbai-based Wockhardt Limited commissioned a $50 million biopharmaceutical complex—India's largest—in Aurangabad. Sun Pharma and Lupin Limited have also expanded their R&D operations.

Some front-runners with financial muscle can afford to focus on R&D, but analysts predict that second-rung companies will have to struggle as contract manufacturers and distributors for multinationals.

One strategy is to invest in small US biotech startups that possess novel technologies in return for a share in their intellectual property. For instance, Bangalore-based Biocon has reached agreements with Nobex Corporation, which is developing oral insulin and Vaccinex, which has technology for monoclonal antibodies. Cadila Pharmaceuticals in Ahmedabad is set to sign a similar deal with a Japanese group developing a HIV vaccine.

Under TRIPS, drugs patented after 1 January 1995 will be eligible for patents in India. Experts say at least 15% of drugs in the market—including AIDS drugs—could be withdrawn, but the loss of even one generic drug could deal a fatal blow to its Indian manufacturer.

Organizations such as Médecins Sans Frontières, which rely on Indian generics in AIDS-hit developing countries, are "gravely concerned," says the group's president Rowan Gillies. The Indian Drugs Manufacturers' Association, a group of about 500 pharmaceutical companies, has suggested paying four percent of the turnover to patent holders to avoid courtroom battles.

Meanwhile, Indian companies have not fared well with new drugs: of the three molecules licensed to multinationals, none has been successful; 18 others are reportedly in trials but the first home-grown drug is at least seven years away, Sudhakar says.

"We will not survive in the R&D game," says Prasanta Kumar Ghosh, former adviser to the government's Department of Biotechnology. "We have to survive by making generics without infringing on patents."

That is not likely to be easy. The US recently ruled to stop Ranbaxy Laboratories and Dr. Reddy's Laboratories from marketing copies of Pfizer's antifungal drug Diflucan and the blood pressure drug Norvasc in the US. In September, Dr. Reddy's Laboratories dropped its patent challenge against Novartis over Lamisil, a widely prescribed oral antifungal agent. Pfizer is also fighting Ranbaxy in a US court to prevent entry of the Indian company's version of Lipitor, the world's top-selling cholesterol-lowering drug.

*K.S. Jayaraman, Hyderabad*

# US AIDS chief altered report on nevirapine safety risks

**An AIDS drug used to block transmission between mothers and babies in Africa may be more dangerous than health officials knew. According to documents obtained by the Associated Press, the chief of the US National Institutes of Health (NIH) AIDS Division, Edmund Tramont, changed a report on the antiretroviral drug nevirapine to minimize safety concerns.**

**The drug has been shown to decrease mother-to-baby HIV transmission by 50%, but can also promote drug-resistant forms of the virus, which can limit treatment options for the mothers at later times. It has also been linked to potentially fatal liver toxicity, as well as less serious side effects.**

**In 2002, five years after the NIH began studying the drug in Uganda, several reviews of the trial pointed to flawed research practices and underreporting of side effects. The research was halted while the NIH and outside auditors reviewed the project. Tramont reinitiated the study 15 months later, after reportedly rewriting a report that said safety data collected from the trial may be inaccurate.**

AFP Photo/Anna Zieminski

Nevirapine cuts mother-to-child HIV transmission.

**The NIH supports the research, citing the many babies saved by the drug, but has also stopped recommending nevirapine as the first-choice treatment for prevention of mother-to-child transmission of the HIV if other options are available. An NIH review board has cleared Tramont of all scientific misconduct allegations. The US National Academy of Sciences is reviewing the issue and expects to release a report in March.**

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