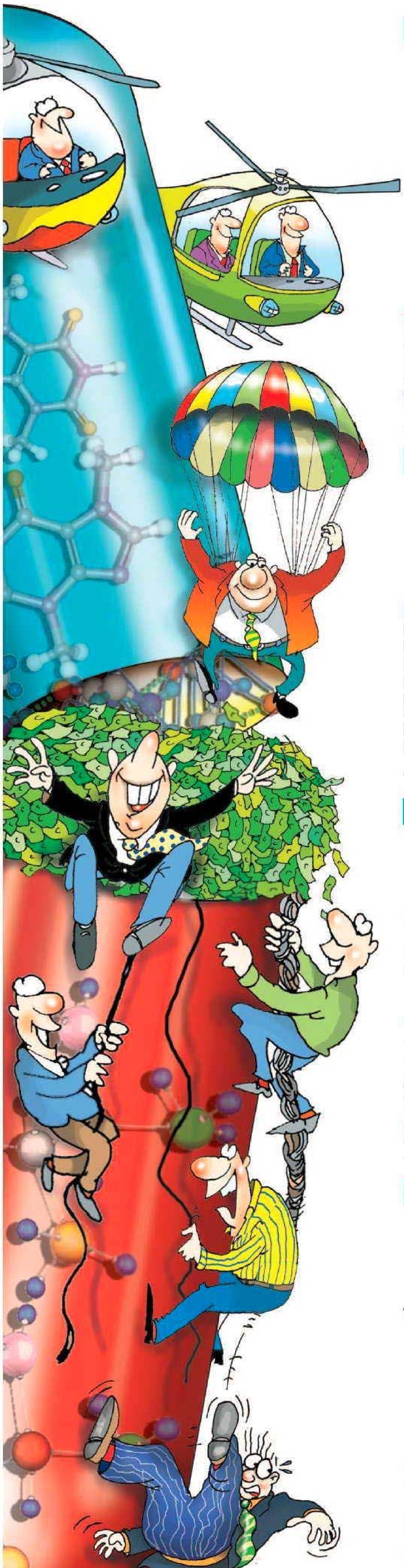
Beyond the Patent Cliff

It is not just Big Pharma that has to prepare for life after the 'patent cliff': patent expiries on a slew of blockbuster drugs. Leading Indian generics companies do too. According to one estimate, the value of drugs going off-patent between 2016 and 2020 will fall 62% from the value in the preceding five-year period (2011-15). For Indian companies, this means a smaller opportunity in their main business: off-patent drug exports. They will need other drivers to grow. **Gauri Kamath** breaks down four key growth drivers that could kick in around the same time for them.



SALAM

GENERIC BIOLOGICS

The Opportunity

ACCORDING to research firm Evaluate Pharma, by 2016, 48% of global revenues of the top 100 drug products will be from biotechnology — bio-engineered vaccines and biologic drugs — compared to 31% in 2009. For instance, after Lipitor, the world's top-selling drug, goes generic, the next biggest product will be rheumatoid arthritis drug Humira, a biologic, says Evaluate, with estimated sales of $10 billion in 2016.

Between 2008 and 2015, industry estimates indicate that $59 billion worth of biologics will go off-patent. Since patented biologics are expensive, governments and payors are keen to embrace biosimilars — generic variants of biologic drugs. Ergo, Indian generics companies that are known for making knock-offs of chemical drugs stand to lose out on a significant chunk of patent expiries if they don't build capabilities to sell generic biologics in the western markets.

In The Fray

- Cipla
- Dr Reddy's Lab.
- Lupin
- Wockhardt
- Zydus Cadila

Home Truths

EVEN though blockbuster biologics are already losing patent protection, the big biosimilar opportunity in the West is expected to play out only after 2014-15. That's because there's a significant time lag between patent expirations on biologics in western markets and the advent of biosimilars.

Unlike conventional drugs, which are made by mixing chemicals, biologics are derived from living cells — and therefore, tougher to produce. Any change in the manufacturing process could potentially alter their effects in the body, for the better or for the worse.

Generics companies sometimes have to change processes to circumvent process patents that can run longer than those on the core product. This has made regulators wary of approving biosimilars; Europe has asked for more elaborate safety and efficacy tests than generics, and the US is still creating a regulatory pathway.

Challenges

GENERICS companies struggle to get a handle on the cost of developing a biosimilar. Unlike generics, where one size usually fits all, regulators are determining the scale and nature of animal and human testing on a case-by-case basis. In parallel, innovators are pushing back. They understand that most generics companies are making their mark with biosimilars in developing countries before moving to the advanced ones. So, even in small markets like Chile, innovators try to block biosimilars by raising safety or patent infringement concerns.

Then, pharmacies in advanced markets aren't allowed to switch prescribed brands with biosimilars, like in generics. So, generic biologics will have to be branded and detailed to doctors. This is a capability that Indian companies are yet to build in the West, and so they may have to partner and share the upside with MNCs.

CEO Speak

Approvals are taking time, but wherever we have launched, our market share has exceeded our expectations

GV PRASAD
Vice-Chairman, Dr Reddy's Laboratories

Ahead of the Pack

When launched in India in 2007, Dr Reddy's Reditux, a brand of cancer drug rituximab, was the first biosimilar of Roche's $6 billion cancer drug Rituxan anywhere in the world. Dr Reddy's has begun selling a biosimilar of rituximab in emerging markets at a 30-50% discount to the innovator brand and expects to start trials this fiscal for a regulatory approval in Europe. Similarly, its darbepoetin, a drug for severe anaemia, was the first biosimilar of Amgen's $2 billion Aranesp.

NEW DRUGS

The Opportunity

A SIZEABLE chunk of the $300 billion annual revenues of the US pharma market — the world's largest — comes from branded pharmaceuticals that are protected by patents and priced at a steep premium. An Indian company that brings a completely new drug to global markets stands to see its revenues and profit leapfrog if the drug is successful.

In The Fray

- Dr Reddy's Lab.
- Glenmark Pharma
- Lupin
- Piramal Life Sciences
- SPARC (Sun Pharma sister company)
- Wockhardt
- Zydus Cadila

Home Truths

DRUG discovery straddles chemistry, biology, clinical pharmacology and, more recently, genomics. It takes millions of dollars and close to a decade to bring a new drug to market. Most of the money goes in testing the drug on a large number of humans to prove its safety and efficacy. The odds are low: just one in seven or eight that enter trials make it. Including the cost of failure, the cost of R&D rises to a $1 billion per drug.

Challenges

ALTHOUGH Indian scientists are adept at tinkering with chemical structures, drug discovery requires chemists and biologists to work closely. Especially now, after the decoding of the human genome, drug discovery is moving towards targeted therapy — molecules are targeted at specific genes and proteins.

India's historical weakness in biology poses a challenge. Besides, Indian companies lack deep experience in human trials to yield statistically significant results. Because of this, and the cost, they rely heavily on licensing out their drugs to large pharmaceutical MNCs for development. This requires them to understand the gaps in MNC pipelines and what they might be looking for. Even when they do, their drugs have still failed in trials.

CEO speak

"Between 2015 and 2017, we have two or three shots at goal"

GLENN SALDANHA
MD and CEO, Glenmark Pharmaceuticals

Ahead of the Pack

Glenmark has seven molecules in clinical trials, two of which are licensed to Sanofi for development in exchange for payments linked to milestones. It has also acquired the rights to experimental drugs from small western companies for further development. One such drug, crofelemer, for HIV-associated chronic diarrhoea, is due to be launched in India next year and in 140 other countries subsequently. It has hired senior managers with experience in drug development from innovator companies. Its lab for biologics research in Switzerland has grown from five people to 50.

DIFFERENTIATED OR SPECIALITY FORMULATIONS

The Opportunity

CALL them a bridge between generics and completely new drugs. Broadly, differentiated drugs involve some improvement — safety, efficacy or convenience — of a known medicine. An obvious instance is reducing the number of times a drug is taken, or its dosage, by improving bioavailability — the way it is absorbed in the body.

The costs and time to develop such drugs could be much lower than for completely new drugs since the core product is known. Trials are shorter and require smaller sample sizes. Differentiated or speciality formulations can help an Indian company make an entry into the lucrative branded drugs markets in western countries and create intellectual property.

In The Fray

- Dr Reddy's
- Sun Pharma
- Zydus Cadila
- Lupin

Home Truths

THE area is competitive: there are tens of small western companies that are organised around specific technology platforms. Large pharma companies that want to manage the life cycle of blockbusters set to go off-patent are also involved in this type of research.

Challenges

DEVELOPMENT costs can exceed expectations. Regulators may ask for more detailed testing than initially envisaged, depending on the degree of departure of the 'new' formulation from the known one. By 2015, a good number of blockbuster molecules will have lost patent protection; cheap generics will be available. A differentiated formulation will have to show considerable value addition to convince payors to reimburse its premium pricing and doctors to prescribe it instead of the vanilla generic. The Indian cost arbitrage will work only if it addresses an unmet medical need.

CEO Speak

"We have the technological capability and ability to brand products. The next step is to become a company that makes and sells specialty pharmaceuticals"

DILIP SHANGHVI
Chairman, Sun Pharma

Ahead of the Pack

Earlier this year, Sun Pharma formed a joint venture with US drug maker Merck to develop, produce and market so-called 'innovative' formulations in emerging markets outside India. The products for this venture are being researched by SPARC, a Sun sister company that houses all new drug and delivery systems R&D spun out of Sun in 2007. One SPARC innovation is Starhaler, a dry powder inhaler for asthmatics that, in trials, showed equivalent clinical efficacy as GlaxoSmithKline's Seretide inhaler at half the dose. Sun launched Starhaler in India this year. However, a product launch from the Merck-Sun JV is two or three years away, the company says; SPARC is talking to US regulators to start Starhaler trials for a launch in that market.

VACCINES

The Opportunity

LEANING on the adage that prevention is better than cure, governments, NGOs and grant organisations have been working together to expand the vaccines market, especially in developing and less-developed countries that bear a burden of vaccine-preventable disease.

A good example is GAVI, a global public-private partnership that has created funding mechanisms for vaccines. Since 2000, GAVI has committed $4.5 billion towards the purchase of vaccines for poor countries against diseases such as polio, measles and hepatitis B. Recently, it said it would provide additional funding to purchase vaccines against severe rotaviral diarrhoea and pneumonia for developing countries. The opportunity for Indian companies lies in supplying low-cost vaccines to mass immunisation programmes. In parallel, selling vaccines to doctors in emerging markets can be a lucrative adjunct to the drugs business.

Home Truths

THE mass immunisation markets are tender-based; quality being equal, companies compete entirely on price. Also, buyers are consolidated — a few large multi-lateral organisations do the buying and channel the product to governments for distribution. With emerging markets also tightening their patent laws, companies will have to be content making older vaccines for the doctor's chambers since the new ones — for diseases such as cancer — will be under patent for several years. Or, they should be willing to invest in novel vaccines.

Challenges

INDIAN generics companies have mostly stayed away from vaccines, preferring to focus on drugs. They have ceded ground to pure-play vaccine players such as Serum Institute of India and Panacea Biotech, which are large suppliers to international organisations. Capability building will, therefore, be the biggest challenge. There will also be a continuous pressure on costs in the tender market for mass immunisation as buyers continuously seek to cut costs in order to immunise more children. MNCs too are showing a willingness to compete on price. Recently, GlaxoSmithKline and Merck announced price cuts on rotavirus vaccines for GAVI-funded programmes.

The retail market will be no cakewalk either. In India, for instance, a good number of vaccines such as for chicken pox or pneumonia are deemed 'optional'. Many parents choose not to vaccinate. Companies will therefore need more investments in awareness to drive more parents to inoculate their kids. Since vaccines are biologicals, those wanting to hawk generic vaccines in the West may have to jump the same hoops as with biosimilars.

CEO Speak

"It's not that there will be zero products losing patent protection post-2016, but the pipeline is going to get thinner... vaccines are a good niche, and we are interested in both classical and novel ones"

PANKAJ PATEL
Chairman, Zydus Cadila

Ahead of the Pack

Zydus Cadila is the only leading Indian generics company that has invested in building vaccine capabilities. In 2008, it acquired Italy-based Etna Biotech, a vaccine research company. Last year, it launched the first indigenously developed and produced vaccine against swine flu in the country. It reportedly plans to launch 14 more vaccines in the next four to five years.