



PILLS & PROFIT

How the patent laws are making big pharma millions

Medicines that can save lives – or simply provide better health care for less – are priced beyond the reach of most people because of pharmaceutical companies determined to hold on to their patents and keep the profits rolling in. **BRENDON BOSWORTH** looks at how the patent laws affect ordinary South Africans

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Dr Jennifer Hughes carefully opens the silver packaging of a 10-pill pack and drops a white tablet onto a plastic pill bag. Careful not to touch it with her fingers, she slides the drug across the table towards me.

“One of these costs R700,” says Dr Hughes, a TB doctor at a Médecins Sans Frontières (MSF) clinic in Khayelitsha. “Sometimes, I get 10 boxes because I’m packing them up for my patients and I think ‘gosh, what I’m holding in my hand costs more than my car.’”

The unspectacular-looking pill, made by multinational pharmaceutical giant Pfizer,

which raked in \$59 billion (about R600 billion) in revenue in 2012, is called linezolid. It’s an antibiotic registered to treat things like MRSA – a staph infection sometimes referred to as a “superbug” – but Dr Hughes has been using it, off-label, to treat extensively drug-resistant tuberculosis (known in shorthand as XDR-TB), a form of TB that is resistant to at least four of the main anti-TB drugs, among patients in Khayelitsha.

Patients in the MSF pilot programme infected with this virulent form of TB need to take one linezolid pill every day for up to two years, along with a medley of other drugs. This leaves the humanitarian organisation with a hefty bill to pay: the Khayelitsha field office spends at least 20% of its budget on the costly pills, says Dr Hughes.

Linezolid is available in the public sector for less than half the price MSF pays for it because government buys drugs through a tender process. But it’s still expensive at around R300 per pill. The drug is also not registered for use against TB, another barrier. But the Western Cape government recently approved the use of linezolid for selected patients who are also receiving a new anti-TB drug, bedaquiline, through the National Department of Health’s Compassionate Use Research Program. The Provincial Pharmacy and Therapeutics Committee has decided, however, that there is currently not enough efficacy and safety data to support the use of linezolid beyond that, says Mark van der Heever, spokesperson for the provincial Department of Health.

MSF, however, says that linezolid has a 68% success rate with MDR-TB. It notes a high incidence of “adverse events”, typically including nerve damage to the feet and anaemia. But by closely monitoring patients, doctors can manage side effects by reducing the dosage, Dr Hughes says.

She adds that treatment with the current drugs available has a 20% success rate and these also have side effects, such as deafness, psychosis, and joint pain.

“I think the adverse events argument is not viable given the adverse events of all the other drugs we use,” she says. “By the time you’re diagnosed with XDR-TB you have one chance, basically – that is the end of the road.”

A generic version of linezolid is made in India and sells for about R80 per tablet. But it cannot be traded in South Africa because Pfizer holds a patent on linezolid here. The patent was due to expire this year, but the pharmaceutical giant was granted a further

patent that could bar competition from generic manufacturers up until 2022.

Dr Hughes says that potentially hundreds of patients in Cape Town could benefit from the drug, but MSF has to make careful decisions about who it can give it to, because of the cost.

Twenty-one-year-old Aviwe Jacob is one of the lucky ones. After traditional treatment for multidrug-resistant TB (MDR-TB) failed, and doctors diagnosed Jacob with XDR-TB, in March 2012 he was put onto a regime of various drugs, one of them linezolid.

Speaking to the young man, who sports a pair of red high-top sneakers and flat-peak cap, it’s difficult to imagine him suffering the night sweats and bouts of vomiting he describes during his struggle with the most malicious strain of the disease. Not to mention that some of the patients who started treatment with him two years ago are now dead.

“It was very disturbing for me,” says Jacob, recalling how he felt when his initial treatment failed. “I began losing hope, thinking there’s no way I’m going to survive.”

After doggedly sticking to the cocktail of drugs prescribed for XDR-TB, and swallowing a handful of pills daily, Dr Hughes confirms that Jacob was cured in September 2013. “It feels good. I can really get my life back on track to where it was before I had XDR-TB,” says Jacob in his low-key way.

“Apart from the linezolid drug being made available to every patient living with MDR- and XDR-TB, I think the drug should be made available to everyone. But the unfortunate thing is that it’s expensive and it needs a lot of funding.”

Easy patents?

In South Africa, like other countries that adhere to the World Trade Organisation’s Agreement on Trade-Related Aspects of International Property Rights, pharmaceutical manufacturers are given 20-year patent protection on new drugs, which blocks generics competitors from selling the same thing.

But through making small changes to products, companies can get further patents on things like the process for preparing a drug’s active ingredient. The continued tweaking of a drug to gain more patents, or filing for later patents on different elements of a drug, and maintaining market monopoly is known as “evergreening”.

India has led the way in putting a stop to this practice. In a landmark case in April 2013, India’s Supreme Court shut down Swiss com-



Activists march to the Department of Trade and Industry’s offices in Pretoria over the high cost of medicines in South Africa. The protest, on October 17 last year, called for overhauls in the patent-granting system.

pany Novartis's attempts to get a patent on its anti-cancer drug Gleevec because it was not deemed different enough to the previous version of the drug. But critics allege that evergreening continues in South Africa.

"In effect, companies are getting longer patent life and that is affecting consumers in South Africa by denying them quicker access to cheaper generics, on expiry of the original patent," says Paul Anley, CEO of Pharma Dynamics, a major player in South Africa's generics market.

But Val Beaumont, chief operating officer at the Innovative Pharmaceutical Association South Africa, a trade association representing 26 research based pharmaceutical companies, including Pfizer, Bayer, and Roche, maintains that the term "evergreening" creates a false impression that pharmaceutical companies are abusing the patent system.

"The patent system provides incentives to improve products," says Beaumont. New patents granted for improvements to medicines meet the necessary patent requirements and are medically important, she says.

If a patent has been granted for a new version of a drug, a generics company can still produce the old version of the drug for which the previous patent has expired, she says. If an individual or company feels a patent is weak or invalid and wants to challenge it, this can be done through the courts, she adds.

Research shows that South Africa doles out a truckload of patents. In 2008, government registered 2 442 pharmaceutical patents, according to research by Carlos Correa, based at the University of Buenos Aires' South Centre. Brazil, meanwhile, granted just 278 patents between 2003 and 2008. South Africa is also a cheap place for multinationals to get patents: the process costs 20 to 30 times less than it does in other parts of the world.

The current intellectual property system "not only fails to support the objectives of the national innovation system" but also "facilitates exploitation by foreign interests and creates substantial social costs," according to researchers from the University of Pretoria, writing in the *South African Journal of Science* in 2011.

"South Africa's law is problematic because it just makes us very vulnerable to frivolous patents and abuse," says Catherine Tomlinson, a researcher with the Treatment Action Campaign (TAC). "We grant patent protection for what can't actually be



"I can really get my life back on track," says Aviwe Jacob, who survived XDR-TB after visiting the MSF clinic in Khayelitsha and sticking to a regime of drugs that included linezolid. But the drug is far too expensive to be widely used by MSF.

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termed as innovation."

Organisations including the TAC, MSF and public interest law centre SECTION27 have been pushing for legislative change. And now it's on the horizon. In September 2013, the Department of Trade and Industry released a draft national policy on intellectual property that calls for overhauls in the patent-granting system.

One of the key changes recommended in the draft policy is the use of what's known as a search and examination process. This involves experts scrutinising the patent application to make sure it complies with the necessary requirements for a valid patent.

Currently, applying for a patent in South Africa involves filling out the forms correctly and paying the fees. There is no examination process. The USA performs such examinations. Here, if another company wants to challenge the validity of a patent it has to do so through the High Court. But the legal process can take time and be costly. Anley, the CEO of Pharma Dynamics, says his company has racked up a legal bill of more than R10 million fighting Bayer over a patent the German multinational has on popular birth control pill Yasmin. In 2011, Pharma Dynamics registered a generic version of the pill with the Medicines Control

Council, called Ruby, which would sell for about 70% of the price of Bayer's version, after Bayer's patent expired in 2010. But Bayer was granted a new patent in 2004, and brought an interdict against Pharma Dynamics to stop it from selling its pills. Pharma Dynamics lost in court, the generic is not on the market, and Pharma Dynamics is appealing the decision.

While barred in South Africa, generic versions of the popular contraceptive are available throughout Europe and the US, where Bayer's patents have been overruled, says Anley.

Challenges ahead

Patent reform advocates have welcomed government's proposal for search and examination, as well as the recommendation that the validity of a patent can be challenged before it is granted.

But intellectual property lawyers note that government does not have the staff needed to perform the search and examination process, and that the introduction of such a system will be expensive. The draft policy recommends outsourcing this work to universities but that could also pose problems. For one thing, technical experts will need a legal background to properly

A nurse with Médecins Sans Frontières delivers tuberculosis pills to a patient at Lizo Nobanda TB Care Centre in Khayelitsha.



DOING THE MATHS ON GENERICS

TB drugs aren't the only overpriced medication in South Africa. Here are a few other examples:

1 Abilify is an antipsychotic drug used to treat schizophrenia and bipolar disorder. It is one of the top 10 drugs worldwide in terms of sales. In South Africa, there are no generics available. Japanese manufacturer Otsuka and co-marketer Bristol-Myers Squibb hold various patents on the drug, lodged between 2003 and 2010. In South Africa one 10mg tablet of Abilify costs R35.60. A generic version in India costs just R0.96 per tablet. Taking two of these pills a day for two years in SA would come with a R51 976 price tag. Taking generic pills in India for the same period would cost R1 401.60. *Sources: MSF, CIPRO online patent search, South African Medicine Price Registry.*

2 Sumatriptan succinate is used to treat migraine attacks and works by constricting certain blood vessels in the brain. In South Africa, the drug costs as much as R95 per 50mg pill. Generics available from other countries can cost as little as \$0.78 a pill. There are generics available in South Africa and they cost around R54 for 50mg.

3 Anti-cancer drug Gleevec or Glivec, made by Swiss firm Novartis, costs over 10 times as much as the generic. India's Supreme Court ruling that the small changes Novartis had made to its drug did not make it different enough to renew the exclusive patent meant financial relief for some 300 000 patients in India. *Source: The Hindu. [www.thehindu.com/news/national/landmark-verdict-gives-big-boost-to-cancer-patients]*

4 Temozolomide, used in the treatment of brain and other tumours, costs over R950 for a 100mg tablet in the private sector, R900 in the public sector, but just R270 for an equivalent Indian generic (and generic manufacturer Cipla has announced it will reduce the price to R74 per tablet in India).

(Note: these prices were compared in 2012. Source: www.fixthepatentlaws.org/?p=482)

assess patent applications, says Esmé du Plessis, senior consultant with Adams & Adams, a law firm that specialises in intellectual property law, who noted that she was speaking in her personal capacity.

The time it takes to grant a patent, which is now about two years, will likely increase, says Du Plessis. "If examination and/or opposition proceedings were to be introduced into our (patent) Act, I think all applicants – whether originator pharmaceutical companies, generic companies, or the individual working in his garage coming up with an innovative idea – all of them will encounter delays."

Despite the current lack of a search and examination system, the South African patent system allows for "strong and tested" patents, maintains Madelein Kleyn, corporate manager for legal and intellectual property at Oro Agri, and research fellow with the Anton Mostert Chair of Intellectual Property Law at Stellenbosch University. "We should focus on educating more judges on the bench so the legal system works more effectively, rather than implementing a system which will be expensive to implement and maintain."

Patent reform advocates, however, remain optimistic that stricter patent controls

will help curb the ability of pharmaceutical companies to keep cheaper drugs off the market beyond the initial 20-year patent period.

The Innovative Pharmaceutical Association South Africa (Ipasa) supports the introduction of search and examination as long as the system is streamlined and does not result in delays, says Beaumont.

Since pharmaceutical patents granted in South Africa are also examined and granted in foreign jurisdictions, Ipasa member companies maintain that their patents are not weak and would therefore meet the search and examination requirements, she added.

But as we wind down our interview in Khayelitsha, Dr Hughes makes a sobering point. Starting the linezolid programme with a slim budget meant she had to choose which patients to put on the costly drug. She remembers having to make that choice between two people.

"The one I gave linezolid to has just been cured last week; the one I didn't is long dead," she says. "That's not any evidence to base [the drug's efficacy] on – two patients – but the fact is we had to sit and choose between people because of the cost issue. If we can get as much linezolid as we want, we can give it to all the patients." **TBI**