

## **What Big Pharma shareholders should know about animal testing**

If you gave a bunch of people billions of pounds each year to make discoveries, you'd be a bit peeved if they came up empty after a decade, right? Spare a thought, then, for the shareholders of the pharmaceutical giant GlaxoSmithKline. Their CEO recently confessed that in the decade up to 2007 his company had spent £30 billion searching for compounds that might turn into new life-saving drugs— and failed to find a single one.

The rest of the “big pharma” industry isn't doing much better. They're spending more than ever on research and development, but the rate of discovery of new drugs remains no higher than it was in the early 1960s.

So what would you do to improve the hit-rate? Well, it's kind of obvious, isn't it: fire those useless scientists and find better ways to discover new drugs. Sure enough, big pharma is now telling thousands of its scientists to get their lab-coats and clear out. Meanwhile, its CEOs are busy buying up biotech companies they think have the knack of making breakthroughs.

Even those of us who couldn't give a toss about share prices should hope they succeed. Love them or loathe them, drugs companies save countless lives every year, and we need them to keep up the fight against cancer, heart disease and the like. But will their new strategy work? Don't bank on it: a recent study suggests that when small companies get gobbled up by big pharma, their creativity goes down the tube – stifled by bureaucracy and management targets.

So what should big pharma do? Here's my suggestion – and it picks up on that statistic about drug discovery being the same as in the early 1960s. As everyone in the industry knows, something terrible happened back then. The trouble is, they won't face the possibility that the response may have been barely less catastrophic.

Around 50 years ago, doctors began noticing a sudden rise in the numbers of babies born with appalling deformities. The cause proved to be Thalidomide, a drug that supposedly helped pregnant mothers with morning sickness. It was withdrawn from the market, and in the ensuing furore governments in Europe and the US introduced laws requiring all drugs to be tested on animals before being given to humans.

Such legislation was a perfectly reasonable response to a dreadful disaster – but it was based on a huge assumption: that animal tests are reliable indicators of what will happen in humans. Yet fifty years on, that assumption has still not been scientifically validated.

What little evidence does exist suggests animal tests may be worse than useless. As big pharma knows only too well, around two-thirds of potential therapies that pass animal studies prove either too toxic or ineffective for humans. Then there's the flip-side: all those miracle-cures we're missing out on because they produced some dire but irrelevant side-effect in animals.

It's time big pharma joined forces and brought some real science to the ritual of animal testing. They're sitting on half a century of data – more than enough to reveal how reliable it really is.

Until they do, their shareholders should brace themselves for more lean years – while the rest of us are denied miracle cures killed off by the irrelevant death of a lab-rat.

*Robert Matthews is Visiting Reader in Science at Aston University, Birmingham*