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## Insulin pricing: Investing in the future or just price gouging?

**“Reason has always existed, but not always in a reasonable form.”**

**Karl Marx**

Here in the United States, insulin companies are in the crosshairs of public dissatisfaction with Big Pharma. This follows the actions of “the most hated man in America”, Martin Shkreli, the founder and erstwhile CEO of Turing Pharmaceuticals. Late last year, Shkreli’s company raised the price per pill of Daraprim, a treatment for toxoplasmosis, by 5500% almost overnight after acquiring the marketing rights. Shkreli claimed that the price hike was needed to turn a profit and invest in research for the future. This is actually the standard argument from Big Pharma to justify price hikes for their existing products. Shkreli’s actions turned the spotlight on the pharmaceutical industry in general, and some of the first to come under scrutiny have been the insulin manufacturers.

The World Health Organization (WHO) considers insulin an essential medicine, which means it should be available “at a price the individual and the community can afford”. In the US, it is becoming very expensive, costing just under \$1000 for a 3-month supply. Fortunately, most people don’t pay the full amount; however, with increasing use of insurance policies with high co-payments or deductibles, the financial burden of insulin is growing and people with diabetes increasingly have to consider rationing their insulin or stopping it completely. It has been suggested that this may lead to a rise in the number of episodes of diabetic ketoacidosis (Hirsch, 2016).

In 2014, the big three insulin giants made more than \$12 billion in profits. According to a recent *New York Times* article, the same big three have simultaneously been hiking their prices. From 2010 to 2015, the price of Lantus (Sanofi) went up by 168%, Levemir (Novo Nordisk) by 169% and Humulin R U-500 (Eli Lilly) by 325% (Lipska, 2016). Currently in the US, there is no generic insulin, and over 90% of privately insured patients

with type 2 diabetes get the newer and more expensive insulin products. In Europe, insulin costs about a sixth of what it does here. In the US, we have the private sector and a free market for drug pricing, so perhaps this is a warning for the NHS as the politicians consider its future?

Every cloud has a silver lining, and the heat Big Pharma is feeling may finally persuade them that they need to do more to reduce the burden of diabetes and its complications, beyond simply selling more and more insulin. Investing in technology, including mHealth, to support people living with diabetes may be the low-hanging fruit for them but, up to this point, there has been a palpable reluctance by insulin companies to step outside of their comfort zones. With the recent announcement of collaborative agreements with the likes of Google and IBM, perhaps there will be some movement in this area in the not-too-distant future?

However, to put all of this in perspective, in the same editorial mentioned earlier, Irl Hirsch reminded us that WHO has set a 2016 goal for access to insulin in developing countries at 80% – in other words, 20% of the population with diabetes won’t have access to any insulin (Hirsch, 2016). That is simply appalling given that we are rapidly approaching the 100<sup>th</sup> anniversary of the discovery of this “force of magical activity” (Tattersall, 2009). ■

Hirsch IB (2016) Ranting in 2016: a medical system in crisis. *Diabetes Technol Ther* **18**: 110–2

Lipska K (2016) Break up the insulin racket. *The New York Times*, New York, NY, USA

Tattersall R (2009) *Diabetes: The Biography*. Oxford University Press, Oxford

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