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Commentary

The Three-Way Pendulum of Healthcare Innovation

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Abstract

We are, understandably, forever hearing about the high cost of bringing innovative new drugs and treatments to the healthcare market, especially medicines for smaller subgroups, and the fact that member state health systems often baulk at the prices. This article will argue that such a bypassing and blocking of innovative medicines and treatments is not only counter-productive when it comes to the health of Europe's patients, but actually fails to take into account the economic arguments. The article seeks to show that the long-term benefit to patients and the economy (health means wealth) will outweigh initial costs down the line. Couple this with a smarter use of information technologies and other resources and it will be possible to get much closer to building sustainable healthcare systems in a Europe struggling under the burden of an ageing population.

Bringing Innovations to Healthcare

Hispano-Suiza got one thing right. In the first half of the last century, the company produced genuinely innovative motor cars. But the Hispano-Suiza pendulum swung only one way. Its products were so expensive that only few could afford them, and the firm had to switch to making aviation engines to avoid bankruptcy.

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Henry Ford got two things right. His innovation was to find a way of making cars in unprecedented quantities, so that the economies of scale allowed him to sell at prices plenty could afford – and Ford is still in the car business today, a century later. Ford worked with a two-way pendulum that balanced volume and price to fund innovation, a more successful business approach that has been followed by other notable innovations since then: McDonalds or Pizza Hut, Days Inn or Hilton, Microsoft Windows or Apple's iPhone, Amazon or Amadeus.

Introducing successful innovations in healthcare is more complex [1]. As innovators try to keep costs and revenues in balance, they also have to take account of a third factor: the readiness of public authorities or insurance agencies to pay. This is very different from the largely private markets for cars, information and communication technology, travel, or hospitality.

For most healthcare innovations, the procurement decisions are made not as a result of a value judgement by the customer, but by intermediaries who have their own economic balances to strike. For success, innovators in this market need a pendulum that swings three ways – and that is a tough proposition. That third dimension of the pendulum can be crudely expressed as profit – but it is rather more refined than that.

It is in effect the innovator's need for the prospect of a return that justifies and incentivizes the effort to pursue innovation. As in any economic operation, it needs a match between investment and revenues – but in this context, that third dimension is defined by forces over which the innovator has little control or influence – the two primary dimensions of price and volume.

Smaller Markets, Higher Prices

This tough proposition is now getting tougher, much tougher, because the accelerating shift towards personalized medicine, with all its promise of benefits for society, is nevertheless distorting the swing of the pendulum even further [2].

Until recently, a successful healthcare innovation might reasonably have hoped to benefit a large population – so large that a satisfactory balance between price and volume would often provide an innovator with an adequate return and still satisfy the purchasing authority with what it deemed appropriate value for money. But personalized medicine, and particularly the advent of targeted treatments that are often highly successful in subpopulations, dramatically alters that calculus [3].

There are many aspects to personalized medicine, ranging from a deeper understanding of disease processes to sophisticated screening techniques and advanced diagnostics, but it is running into an unprecedented pushback from many national authorities who are baulking at the prices from a series of highly targeted innovative treatments that personalized medicine is generating.

The prices are based by the innovator on the small volume of likely sales, and calculated to provide an adequate return on the high investment costs incurred. But for the paying authority, accustomed to disbursing large sums for treatments that serve large patient populations, the price is seen as too high when it will cover only a subpopulation of patients [4].

The authorities' calculations often fail to take account of the potential savings that might result not only from the use of a more efficacious therapy but also from more precise and evidence-based prescribing, which can relieve health services of the costs of medicines that will not work in some patients (and even of the cost of consequent unnecessary side effects).

New Treatments Bypassed

The upshot is that many member states are refusing to admit some breakthrough immunotherapies and other precision cancer treatments into their reimbursement systems [5]. And in the case of high-priced innovations that could well serve a large population – notably the recent hepatitis treatments – paying organizations have done the mathematics based on the launch price, and shrunk from endorsing wider use.

The consequence of this complex market is that innovation is receiving less encouragement – and the innovations that personalized medicine offers, which often aim at subpopulations, are doubly discouraged. Paying authorities may feel content that they are keeping their drug bills in check – but patients are left untreated even when new treatments are available, and innovators are left wondering whether they can risk further investment in the face of repeated rejection by health authorities [6].

The complexity of the medicine market is no excuse for ducking out of this dilemma. The ingenuity that has led to the creation of highly sophisticated healthcare systems, and to the availability of highly effective treatments, is capable also of seeking – and finding – solutions to the challenges of new paradigms in care.

Sustainable Health Systems

The challenge is wider than a debate about the price and cost of medicines – and meeting the challenge accordingly requires a review of how health systems as a whole can be sustainable. It has to take account of how resources are allocated, and how the right technologies can be efficiently used at the right time and for the right patients [7].

The potential for treating hepatitis patients offers a telling example. The launch price for the lead innovator was high – but if the product were used more widely, the unit price could logically be lower, and still provide an adequate return on investment. The cost for the health service would still be high for its drug budget – but since the results of the treatment would dramatically reduce costs otherwise incurred among wide populations for subsequent untreated liver disease, the system would make overall net savings.

In addition, the price of innovations falls after entry, both because of competition from rival products in the same class (and the leading hepatitis treatment was rapidly followed by several similar products, all offered at lower prices) and because of the expiry of exclusivity. Across the OECD, medicine expenditure growth lags that of overall healthcare spending, because growth from new products is offset by the reduced prices of products as they lose their exclusivity.

Essentially, the debate is about the best allocation of resources across healthcare systems. Rational use of these resources would take advantage of possible cost savings, by viewing costs strategically rather than merely at the level of individual cost headings such as drugs, hospitals, and ambulatory care. Of course, where it is possible to treat a patient with an older, cheaper medicine, it should be done, but if a patient can benefit from a more modern treatment, access should be provided, even if low-volume treatments inevitably command a higher price, at least initially. Getting this balance right ensures that everyone wins [8].

Smart Use of Resources

And there are factors that make it easier to get this balance. Advances in information technology are providing health system managers with a more "information-rich" environment on which to base their decisions, and bringing closer a more integrated approach to

care. Better information can also play a part in helping pharmacies and prescribing doctors to discharge their own responsibilities to provide the best treatment, which does not automatically mean the most expensive treatment; where cheaper alternatives can provide the same effect, their use can help in ensuring the best use of resources.

This is why the third bailout agreement between the European Commission and Greece requires the Greek government to ensure that 60% of the medicines prescribed are generics by March 2018, up from the current level of 25%, and more in line with Germany and the Netherlands, where the penetration rates are 81 and 71%, respectively. Across Europe, opportunities are available to make improvements to the way that healthcare is organized and financed, without reducing the quality or scope of services [9].

Whether we can support innovation – and afford it – will depend on how smart health systems are at allocating resources in the right way. The price will always remain a factor in the calculations, but it is not the only factor. More important is how innovation is integrated into healthcare systems to maximize its value [10].

There may be no escape from the three-way pendulum in healthcare economics, but a more imaginative search will produce mechanisms that ensure it swings more rhythmically.

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