https://doi.org/10.7175/747.ch17

17. General Overview of Value-Based Pricing

Güvenç Koçkaya [1]
[1] *CarthaGenetics, Pully, Switzerland*

17.1 The Value-Based Pricing (VBP) Concept

The main initiative taken by a government to change the drug pricing system was undertaken in the UK in December 2010. The deliberation gave way to a new pricing system, the Value-Based Pricing (VBP), which entered into force by 2014. VBP aimed to replace the existing Pharmaceutical Price Regulation Scheme (PPRS) strategy of price regulation, which is a voluntary agreement between the Department of Health (DH) and the pharmaceutical industry, where pharmaceutical companies negotiate rates of drug sales for profit with the National Health Service (NHS) [1]. This negotiation happens every five years, when price and profit controls are established and implemented. Due to the need for a better way of pricing medicines, VBP emerged from the Office of Fair Trading (OFT), who conducted a report in 2007, and recommended that prices of individual pharmaceutical products should reflect more than the investment in the development of the products themselves. Rather, the price of the product should also reflect the "clinical and therapeutic value to patients and – more broadly – to the NHS" [2].

VBP was introduced in the market with the aim to found drugs pricing and access to new health technologies on sound principles that reflect social values and the budget-constrained context.

The pricing scheme thus requires clarity on the issues related to principles and social values and details regarding the implementation and operation process.

This fundamental change in the pharmaceutical regulation offers an opportunity to align the incentives of manufacturers, the NHS, and the individual prescribers. The principles of VBP might be better described as 'benefit-based pricing': the price at which the health benefits of a new product are non-inferior to the health benefits lost due to the services moved to finance it [3].

17.2 Need for VPB in the Pharmaceutical Industry

The Pharmaceutical Price Regulation Scheme (PPRS), which was replaced by the VPB, had existed since the late 1950s, and throughout this period its fundamental principles remained the same. It attempted to combine the process of delivering value for money for

the NHS as a purchaser of branded drugs with the creation of a stable and attractive operating environment for the pharmaceutical industry in the UK. However, this blending of procurement and quality policies was contradictory in its actual essence, since the interests of the industry and the customers' needs were not aligned.

Consequently, the VBP process was necessary to create a better system, in order to align the vision of the NHS and NICE in the UK drug industry.

To realize the profits from the VBP scheme, a careful specification on what defines "value" is needed. The OFT report showed that the main focus regards the role VBP plays in aligning the incentives for investment in R&D with the needs of the NHS [4]. Faced with stagnant healthcare budgets, with the added burden of an ever-growing demand for care, the pharmaceutical companies were subject to severe pressure to provide evidence related to the value of their products. Pharmaceutical companies have been subject to public and political control, and while the world is just recovering from the recession, there has been an increased need to ensure a system that oversees the pricing strategy of these organizations [5]. When clinicians and healthcare professionals have some reservations about the effectiveness of a drug, VBP enables pharmaceutical companies to show their commitment, by demonstrating their confidence in the drug's efficacy in a real-world setting. When the market for the drug is highly competitive, VBP gives pharmaceutical companies an opportunity to differentiate their therapies and gain market share [6].

17.3 Stakeholders

The main stakeholders in the VBP scheme are the government, the pharmaceutical industry, and the consumers.

When implementing a VBP strategy, the government body, which in the case of UK is represented by the NHS and NICE [7], aimed at providing a capped price to innovative and generic drugs, to make drugs affordable for the patients. They also made sure that the industries that developed these drugs get the proper credit for investing in a company that does not have a great success ratio [8]. After the implementation of VBR, the government (NHS) was able to save approximately £ 1.2 billion in terms of drugs expenditure, which is a very important achievement for the pharmaceutical industry [9]. Furthermore, drug prices in the UK decreased by 21%, compared to other European countries [6]. Another important stakeholder is the customer, who requires access to important life-saving drugs at affordable costs. The pricing strategy created by VBR helps stakeholders to afford the drugs that otherwise they would not be able to use, and provides them with an alternative to less effective drugs. The third most important stakeholders are the pharmaceutical companies, which earn their profit through the sale of their drugs and also recover the money they lost on failed drug development operations [10]. VBR put a threshold on the pricing of their drugs, which in some cases can lead to losing some profits. However, the pharmaceutical companies can enhance their image within the NHS,

NICE and the customers by providing value to their drugs through VBP. If the drug has value, the healthcare body is sure to provide a good price, which not only promotes drug sales and profits, but also helps create a sound reputation for the company. If the company is able to define and provide value, to measure effective outcomes, and to effectively manage the costs, it can successfully implement a VBP process.

17.4 Current VBP Practices

VBP is defined as "a programs for which financial incentives or disincentives are overlaid on top of the existing reimbursement mechanism (commonly called pay-for-performance – P4P); or fundamental payment reform, such as bundling payments across settings (ambulatory, hospital, or post-acute) or providers (physicians and institutions), or global capitation payments for a wide array of services" [2]. If appropriately structured, VBP holds the potential to motivate providers to improve clinical quality, reduce adverse events, coordinate care, avoid unnecessary costs, encourage patient-centered care, and invest in information technologies and other tools proven effective in improving quality [8]. To be a viable option in the UK, VBP must deliver efficiency (defined as the value for money) to the NHS and also provide adequate incentives for the pharmaceutical industry to invest in innovation. To do so, the new VBP system must be practical and uphold patient access to therapies, by providing quick access to effective therapies and maintaining supply, as well as being legally defensible [11]. Furthermore, a fine balance between financial stability and flexibility must be found among manufacturers and the government, and, finally, the transparency of the process is fundamental, because it upholds all the other factors presented here. The options for patented therapies are complex, since the reflection of value and incentive for innovation must be more explicit [12]. These points, when addressed properly, provide a good chance of creating a good VBP procedure, that can be followed for an effective implementation of the program's ideas.

17.5 Challenges to VBP implementation

Three basic principles of pricing can be distinguished: cost-based, competition-based, and value-based [12]. VBP leads to higher profits than other principles and, unlike them, VBP tries to assess the willingness to pay and to take maximum advantage of it [4]. Despite the superiority of VBP, in practice, cost- and competition-based pricing are still very common [10]. This apparent paradox is the result of the numerous obstacles that must be overcome to implement VBP [13]. VBP often results in a price structure with higher prices than the reference price for some customers, while allowing a price reduction for other customer groups [14], in this case – when the customers who would be willing to pay more may enjoy unintended price reductions – an effect known as arbitrage could happen.

According to Hinterhuber [10]: "the biggest obstacle to the introduction of VBP lies in estimating the differentiated customer value (i.e. the specific value that a product or service has for a customer) and the associated market research costs". Customers must have a full understanding of the processes in order to assess the extension of the added value one solution can generate, compared with the alternative. VBP requires that the price corresponds to the value perceived by the customer and, theoretically, every customer should have a new price offer, which is rarely feasible. For many companies, the problem is that the traditional principles of segmentation are unsuited to VBP. Therefore, VBP requires a specific type of segmentation – "price segmentation" – which takes into particular consideration the price interest, price knowledge, and price intentions as consumer and segment characteristics [15].

17.6 Factors Responsible for a Successful VBP Implementation

There is very limited published literature on the structural and implementation features associated with successful Pay for Performance programs. The studies that examine the effects of alternative designs in order to assess their impact on the provider's behavior are very rare [16]. Based on the published literature [3,5,7,9,17], there have been mixed findings on the effectiveness of VBP programs in meeting its intended goals to improve quality and to control costs. This may be because VBP programs are still a work in progress and these programs are constantly evolving.

One of the features that seems to influence the success of VBP programs is represented by sizable incentives: larger incentives for companies mean larger impact on performance, and a consequent compensation for the effort required to obtain them [18]. Another factor that can affect the success of VBP programs is the understanding, on the part of providers, what is important, and where that importance can be shown [19]. Apart from measuring the outcomes and gaining incentives, there is also a need to engage the key stakeholders in the implementation of the system design.

Similarly, providing an input on the program design and participating in the choice of the performance measures and targets are also important for a successful implementation [12]. In addition, the methodology that measures and rewards performance by assessing objective targets helps motivate the providers to reach set goals and receive an incentive payment [7]. Finally, the support given to providers to help them improve, through the use of data registries, helps the successful implementation of VBR. It is also to be noted that the best practices for sharing, consultative support, health coaching, and other infrastructure building are important types of support to be made available to the providers participating in VBP [20]. VBR has successfully introduced P4P incentives. However, it is not clear whether the system has provided an opportunity cost, and has reached any level of acceptance. Healthcare reformers in the UK are looking to address changes in the healthcare outcomes of the various companies, and are keen to apply innovative ideas, such as the triple-value framework and the NHS RightCare programme. It can be noted

that many changes to the UK system are new; the processes can be implemented for a period of trial and error, so that there is sufficient data to draw better conclusions regarding the ways to improve the health outcomes and reduce the country's health inequalities.

17.7 Conclusion

VBP is an innovative tool for the authorities to make the right decision within the reimbursement process. On the other hand, innovative medicines with extremely good clinical results can benefit from this approach by showing their value, not their cost.

17.8 References

1. Damberg CL, Sorbero ME, Lovejoy SL, et al. Measuring Success in Health Care Value-Based Purchasing Programs: Findings from an Environmental Scan, Literature Review, and Expert Panel Discussions. *Rand Health Q* 2014; 4: 9
2. McHugh M, Joshi M. Improving evaluations of value-based purchasing programs. *Health Serv Res* 2010; 45: 1559-69
3. Kanavos P, Manning J, Taylor D, et al. Implementing value-based pricing for pharmaceuticals in the UK. London: 2020health, 2010
4. Hughes D. Value-based pricing: incentive for innovation or zero net benefit? *Pharmacoeconomics* 2011; 29: 731-5
5. Claxton K, Briggs A, Buxton MJ, et al. Value based pricing for NHS drugs: an opportunity not to be missed? *BMJ* 2008; 336: 251-4
6. Towse A. Value based pricing, research and development, and patient access schemes. Will the United Kingdom get it right or wrong? *Br J Clin Pharmacol* 2010; 70: 360-6
7. Webb D. Value-based medicine pricing: NICE work? *Lancet* 2011; 377: 1552-3
8. Willis M, Persson U, Zoellner Y, et al. Reducing uncertainty in value-based pricing using evidence development agreements. *Appl Health Econ Health Policy* 2010; 8: 377-86
9. Sussex J, Towse A, Devlin N. Operationalizing value-based pricing of medicines. *Pharmacoeconomics* 2013; 31: 1-10
10. Hinterhuber A. Customer value-based pricing strategies: why companies resist. *Journal of business strategy* 2008: 29: 41-50
11. Persson U, Svensson J, Pettersson B, et al. A new reimbursement system for innovative pharmaceuticals combining value-based and free market pricing. *Appl Health Econ Health Policy* 2012; 10: 217-25
12. Danzon P, Towse A, Mestre-Ferrandiz J. Value-Based Differential Pricing: Efficient Prices for Drugs in a Global Context. *Health Econ* 2015; 24: 294-301

13. Cavusgil ST, Calantone RJ, Zhao Y. Tacit knowledge transfer and firm innovation capability. *Journal of Business & Industrial Marketing* 2003; 18: 6-21
14. Avlonitis GJ, Indounas KA. Pricing practices of service organizations. *Journal of Services Marketing* 2006; 20: 346-56
15. Diller H. Price fairness. *Journal of Product & Brand Management* 2008; 17: 353-35
16. Liozu S, Hinterhuber A, Perelli S, et al. Mindful pricing: transforming organizations through value-based pricing. *Journal of Strategic Marketing* 2012; 20: 197-209
17. Raftery J. Value based pricing: can it work? *BMJ* 2013; 347: f5941
18. Jayadev A, Stiglitz J. Two ideas to increase innovation and reduce pharmaceutical costs and prices. *Health Aff (Millwood)* 2009; 28: w165-8
19. Liozu S, Hinterhuber A, Boland R, et al. The conceptualization of value-based pricing in industrial firms. *Journal of Revenue and Pricing Management* 2012; 11: 12-34
20. McGuire, A., Raikou, M. & Kanavos, P., 2010. Pricing pharmaceuticals: Value based pricing in what sense? Eurohealth, 14(3).
21. Mcguire A, Raikou M, Kanavos P. Pricing pharmaceuticals: Value based pricing in what sense? *Eurohealth* 2008; 14: 3-5