Approaches to discussions on confidential pricing whilst enabling analysis of "true" budget impact

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Introduction to budget impact models

Decision-makers require accurate information on the cost, or cost savings, associated with introducing a new pharmaceutical or medical technology to a healthcare system in order to appropriately manage their budgets. Budget impact models (BIMs) can assist with this by providing a cost comparison to a healthcare system under the current scenario versus an alternative scenario in which a new treatment is introduced at a given market share.

BIMs are, therefore, often developed by pharmaceutical or medical device manufacturers to aid in demonstrating the value of new interventions to decision-makers. Excel® models are often used, as the platform is accessible, flexible to adaptations, and provides a low-cost option for model development.

Introduction to confidential pricing

There are often confidential pricing arrangements negotiated with healthcare systems to improve new interventions' cost effectiveness or budget impact. For example, confidential UK Patient Access Schemes (PASs) allow a percentage discount on the list price, rebates, or risk-sharing agreements, reducing an intervention's cost to the healthcare system. The companies that develop BIMs do not have access to the confidential prices of competitor treatments and cannot discuss these with payers directly; therefore, BIMs may not accurately reflect the "true" budget impact of a new intervention.

Decision-makers could explore the "true" budget impact of new interventions through full access to BIMs, with the intent to enter known confidential prices later; however, this presents confidentiality issues. If a model is left with the decision-maker, its owner cannot control who it is shared with, or how data are used and manipulated. There may, for example, be intellectual property within the model's analysis that should not be shared beyond conversations with decision-makers, however this cannot be guaranteed if the full model is left with them. Decision-makers may also make their own changes to the model, which are not reflected in the owner's version, risking non-compliant sharing of the model's confidential data. Therefore, expecting manufacturers to provide full models to decision-makers may not be a practical solution to overcoming confidential pricing agreements.

To address this, we will present and review two methods that provide a more accurate view of "true" budget impact using BIMs, without manufacturers being required to provide full, Excel-based models to decision-makers.

Methods

Method 1: Excel

The first method of concealing confidential pricing agreements uses Excel's inherent data table functionality for BIMs developed in Excel. This presents the budget impact results for a combination of discounts for two treatments at a time, removing the need for confidential prices to be inputted into the model.

For example, in a scenario with 100 eligible patients, where Product A (list price: £600) has 100% of the market share versus Product B (list price: £1,000), the total cost of the scenario equals £60,000 (100%*100*£60). In an alternative scenario, the split between Product A and Product B is 70:30% respectively, therefore the total cost of the alternative scenario is £72,000 (70%*100*£600+30%*100*£1,000). This results in a budget impact of £12,000 (Table 1).

The cost of Product A and Product B are linked to a percentage discount (i.e. product cost=list price*1-discount), where the percentage discounts are user-editable and defaulted to 0%. Following this, a data table can be set up, as per Table 2, where the figure in the top left equals the calculated budget impact. The desired range of discount rates for each product are listed horizontally and vertically along from the budget impact cell.

Excel's data table functionality is used to populate this table with a range of budget impacts for differing amounts of discount on each product. The decision-maker can access this data table to view a more accurate budget impact, accounting for their discounted product prices without having to disclose those discounts to the company presenting the budget impact tool. For example, the decision-maker may receive a 10% discount on Product A and a 30% discount on Product B. The data table shows that the true budget impact for this discount combination is £4,800 (Table 2).

Method 2: Web Companion

The second method employs a Web Companion in combination with an Excel BIM. With this method, the decision-maker navigates through the BIM in Excel to calculate the budget impact using list prices. They can then access a secure, unique web link that leads to an online Web Companion. Here, they can privately input discount values to reveal the more accurate budget impact results, accounting for discounted product prices. These results would appear on a separate page, to be saved and shared as a separate document, which is left with the decision-maker, without any confidential prices being disclosed to the owner of the model. All other inputs (i.e. market shares) would remain unchanged from those entered into the Excel BIM.

Under no circumstances would this information be transferred from the decision-maker's web browser to the web server. All calculations would take place within the decision-maker's web browser, with no data transfer. The decision-maker's internet connection could be switched off while using the Web Companion, should they wish. All calculations would be performed by clicking the recalculation button, with no data shared or stored.

Advantages and drawbacks of both methods can be found in Table 3.

Table 1: Budget impact results

Budget Impact

	Current scenario	Alternative scenario	Difference
Product A	£60,000	£42,000	-£18,000
Product B	£0	£30,000	£30,000
Total	**£60,000**	**£72,000**	**£12,000**

Total budget impact: £12,000

Table 2: Data table in Excel presenting a range of budget impact results using discounted list prices

Product B discount \ Product A discount	£12,000	0%	5%	10%	15%	20%	25%	30%	35%	40%
	0%	£12,000	£12,900	£13,800	£14,700	£15,600	£16,500	£17,400	£18,300	£19,200
	5%	£10,500	£11,400	£12,300	£13,200	£14,100	£15,000	£15,900	£16,800	£17,700
	10%	£9,000	£9,900	£10,800	£11,700	£12,600	£13,500	£14,400	£15,300	£16,200
	15%	£7,500	£8,400	£9,300	£10,200	£11,100	£12,000	£12,900	£13,800	£14,700
	20%	£6,000	£6,900	£7,800	£8,700	£9,600	£10,500	£11,400	£12,300	£13,200
	25%	£4,500	£5,400	£6,300	£7,200	£8,100	£9,000	£9,900	£10,800	£11,700
	30%	£3,000	£3,900	£4,800	£5,700	£6,600	£7,500	£8,400	£9,300	£10,200
	35%	£1,500	£2,400	£3,300	£4,200	£5,100	£6,000	£6,900	£7,800	£8,700
	40%	£0	£900	£1,800	£2,700	£3,600	£4,500	£5,400	£6,300	£7,200

Table 3: Advantages and drawbacks of the two methods

1		2	
Advantages	**Disadvantages**	**Advantages**	**Disadvantages**
Simple method using inherent Excel functionality	Only compares two products	More accurate result as known discounts can be entered into tool	Security of host platform must be thoroughly investigated
Discounts do not need to be entered into tool	Only compares according to a range of pre-defined discounts	Compares multiple products	Potentially costly to create and maintain
	No leave piece containing the true budget impact results	Leave piece containing the true budget impact results	

Conclusion

In an environment where financial resources in healthcare are stretched, the need for decision-makers to accurately plan budgets is key. However, it is necessary to consider methods that do not risk the sharing and manipulation of confidential data. The two methods presented allow decision-makers to discern the "true" prices paid for pharmaceuticals and medical technologies, enabling them to make budget decisions without compromising confidentiality and compliance.

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Abbreviations

BIM, budget impact model
PAS, Patient Access Scheme