

## Terms of reference and conduct of the inquiry

### Terms of reference

1. On 14 March 2014, the OFT sent the following reference to the CC:
  1. In exercise of its duty under section 33(1) of the Enterprise Act 2002 ('the Act') to make a reference to the Competition Commission ('the CC') in relation to an anticipated merger, the Office of Fair Trading, ('the OFT') believes that it is or may be the case that:
    - (a) arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation in that:
      - (i) an enterprise carried on by or under the control of Bupa Care Homes (CFG) plc will cease to be distinct from enterprises carried on by or under the control of Omnicell, Inc.; and
      - (ii) as a result, the condition specified in section 23(3) of the Act will be satisfied with respect to the supply of adherence packaging in the UK.
    - (b) the creation of that situation may be expected to result in a substantial lessening of competition within any market or markets in the UK for goods or services, including the supply of adherence packaging to pharmacies in the UK.
  2. Therefore, in exercise of its duty under section 33(1) of the Act, the OFT hereby refers to the CC, for investigation and report within a period ending on 28 August 2014, the following questions in accordance with section 36(1) of the Act:
    - (a) whether arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation; and
    - (b) if so, whether the creation of that situation may be expected to result in a substantial lessening of competition within any market or markets in the UK for goods and services.

*(signed)* CHRIS WALTERS  
Office of Fair Trading  
14 March 2014

## Conduct of the inquiry

2. On 14 March 2014, we posted on our website an invitation to express views about the merger.
3. In early April 2014, we published an [administrative timetable](#) for our inquiry.
4. We asked a number of relevant parties to comment and complete a questionnaire on the merger. We gathered oral evidence through hearings with selected third parties. Summaries of these hearings are on our [website](#).
5. The Inquiry Group, accompanied by staff, visited the main parties' sites in Stockport and Leeds on 9 April 2014.
6. On 25 April 2014, we published an [issues statement](#) on our website. We received no responses to the issues statement.
7. We received written submissions from Omnicell and SurgiChem and published non-confidential versions on our [website](#) in May 2014. We also held hearings with the main parties on 6 June 2014 in separate sessions. We received a further joint submission from Omnicell and SurgiChem and published a non-confidential version on our website on 25 June 2014.
8. During the course of our inquiry, we sent Omnicell and SurgiChem working papers for comment and considered a number of submissions from them and other parties.
9. A summary of the provisional findings was published on the [CMA website](#) on 11 July 2014.
10. We would like to thank all those who have assisted with our inquiry so far.

## Pricing and negotiations

### Introduction

1. This appendix presents analysis and evidence on pricing and discounting of adherence packaging, relevant to understanding the nature of competition in the market for adherence packaging and to the competitive effects assessment of the merger between Omnicell/MTS and SurgiChem. This appendix considers how prices for adherence packaging are set and negotiated, and whether, and if so how, the prices differ across customers (eg buying groups, the extent of volume discounts), and how prices have evolved over time. It first considers qualitative evidence from various parties on the purchasing and negotiating process and on pricing, and then reports quantitative analysis of prices and discounts that is based on the merging parties' sales data. We also consider pricing of the parties' main competitors in adherence packaging – Venalink, Protomed and Shantys.

### Qualitative evidence on purchasing process and price negotiations

2. This section explores qualitative evidence we have from hearings, main party questionnaires and third party questionnaires (including both competitors and customers) regarding customers who have not tendered. It looks at the processes that customers go through to purchase adherence packaging, including how negotiations work and the factors they use to get better prices. We also consider the processes and discounting decisions from the suppliers' perspective.

### *Purchasing process and negotiations*

3. The vast majority of customers do not tender for adherence packaging products.<sup>1</sup> Omnicell/MTS and SurgiChem, as well as other suppliers in the market, have list prices for their adherence packaging products.<sup>2</sup> Non-tendering customers can either be involved in negotiations or simply pay the list price. [redacted] non-tendering customers get discounts off list prices. For instance, for Omnicell/MTS's generic multidose adherence pack [redacted] were

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<sup>1</sup> There are three customers of adherence packaging that have tendered in the past one to two years. These are Boots, Lloyds and NHS Scotland.

<sup>2</sup> The list price is the standard published price online or in marketing material.

paying below list price and for SurgiChem's Nomad Clear pack [X] % of customers were paying below list price.<sup>3</sup>

4. SurgiChem told us that list prices were [X].<sup>4</sup> SurgiChem noted that it had generally avoided list price increases in recent years, despite raw material price increases, so as not to risk changes to its customers' purchasing patterns. The one exception to this was a price increase for Nomad Clear in 2012, when it also introduced a low-cost alternative, Nomad Clear 2.<sup>5</sup>
5. Customers generally purchase on an ongoing basis, but the frequency of purchases varies, as does the volume of purchases. For instance, Omnicell/MTS noted that most customers placed an order every few weeks or months, but orders could be less frequent – in rare cases there could be up to 18 months between orders. SurgiChem noted that some customers may also elect to order in bulk, including where they purchased centrally.
6. Outside of tenders there are no formal or binding contracts between suppliers and customers. SurgiChem noted that it did not have contracts in place with any of its customers and hence they could switch or multisource without notice. Similarly, Omnicell/MTS noted that outside of tenders supply/purchase contracts were not used.

### ***Discounting policy and evidence***

7. Both Omnicell/MTS and SurgiChem noted that they gave discounts based on volumes and sometimes in response to a competitor. Omnicell/MTS submitted that price was the only factor that customers would negotiate on, and supplier choice was based primarily on price once a certain quality threshold was met. It believed that all other suppliers were of sufficient quality to meet this threshold. In relation to the policy of granting volume discounts, Omnicell/MTS provided an internal document from July 2013 detailing price discounts given for purchasing one-off large volumes of either custom or generic multidose and single-dose adherence packaging, which showed that for very large one-off purchases customers could get a discount of up to [X]%.<sup>6</sup> (However, our analysis of pricing discounting, presented later on, considers average annual prices, which includes regular purchases as well as one-off purchases.)
8. While SurgiChem told us that negotiations with its customers did not focus on price, but instead on building long-term relationships and providing a high-

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<sup>3</sup> CMA analysis of parties' sales data, 2013 only. A customer was considered to be paying below list price if any of the transactions were at least 1% or more below list price in 2013.

<sup>4</sup> SurgiChem initial submission, p9, paragraph 23.

<sup>5</sup> The analysis of this can be found in Appendix C.

<sup>6</sup> The lowest discount was given for purchases of at least [X].

quality service, it also said that it did offer discounts to customers who purchased large volumes. It noted that these were not offered regularly and only with approval by the management team. SurgiChem also noted that it occasionally offered discounts in order to match a competitor's prices where this was considered necessary in order to retain the customer. For example, it said that where a customer stated that it could get a cheaper price from another supplier, SurgiChem would ask for evidence of this and then it may match the price. Further, it noted that where a good customer requested a discount, it would suggest that [REDACTED]. SurgiChem said that, once a discount had been arranged for an order, that price would continue for subsequent orders.

9. In relation to non-price offerings to customers, Omnicell/MTS submitted that [REDACTED]. SurgiChem told us that, although it did not offer rebates, it offered training and business assistance to pharmacies, for example assisting pharmacies with a business proposal to target care homes, accompanying pharmacies on care home visits, or providing training to pharmacies and care homes to demonstrate SurgiChem's products.
10. Omnicell/MTS and SurgiChem submitted to us some internal documents and analysis which demonstrated how discounting worked in practice:
  - (a) Omnicell/MTS submitted price approval forms, where discounts were noted and approved, for the period from October 2013 to March 2014.<sup>7</sup> In [REDACTED] cases, the discount approved was related to a competitor's prices. Of the [REDACTED] price approval forms, [REDACTED] were discounts directly related to [REDACTED]. The remainder did not mention competitors.<sup>8</sup> In the [REDACTED] of cases prices for the multidose packs were discounted to somewhere between [REDACTED]. A [REDACTED]% discount [REDACTED] was negotiated in response to [REDACTED] and there was one example each of the price being discounted by [REDACTED] and [REDACTED]%[REDACTED]. Omnicell/MTS also forwarded a brief email chain with [REDACTED] where [REDACTED] presented quotes from a different supplier and asked Omnicell/MTS to price match if they wished to retain business.
  - (b) SurgiChem conducted its own analysis of the discounts it had offered between 2011 and 2013. This showed that out of [REDACTED] orders during 2011, 2012 and 2013, [REDACTED] involved a new discount (this is a discount in relation to the previous transaction price, not the list price, and it is possible that the previous price was below the list price) and [REDACTED] ([REDACTED]) of these were for ordering in bulk. In the remaining [REDACTED] cases, SurgiChem offered a discount in order to match the price of a competitor or entice the customer away from a competitor with reduced prices. It enticed customers away

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<sup>7</sup> Omnicell/MTS initial submission, Appendix 16, Price approval forms.

<sup>8</sup> Omnicell/MTS price approval forms on occasion state that [REDACTED].

from/matched Omnicell/MTS's prices in [REDACTED] instances, Venalink's prices in [REDACTED] instances (each of which are [REDACTED]% of price-matching instances), and Shantys' prices in [REDACTED] instances ([REDACTED]% of price-matching instances). SurgiChem also matched the prices or enticed customers away from Biodose in [REDACTED] and Mediclear in [REDACTED] (each of which is [REDACTED]% of price-matching instances). We note, however, that this analysis might not be very robust as it relies on only [REDACTED] price-matching instances. In addition, discounting and price-matching instances are not routinely recorded and may not all be reflected in SurgiChem's data.

#### *Evidence from competitors*

11. We also received information from other competitors regarding how they negotiated with customers and decided to offer discounts. Venalink told us that its customers would quite often mention that they liked the product but that other competitors were offering a product at a lower price as a way to lever the pricing. Venalink noted that most customers would try to negotiate in this manner, but that it would never sell at a loss and would only negotiate up to a certain point rather than spiralling the price right down. It said that it would try to discount based on volumes purchased, but had increasingly discounted on price to compete with competitors. Venalink told us that its discounts ranged from 5 to 20% depending on the customer and product, noting that it was likely to give higher discounts for larger companies and certain products with larger margins. Venalink said that it most commonly matched, or tried to match, Omnicell/MTS on pricing, noting that customers mentioned Omnicell/MTS's prices more often than SurgiChem's in their negotiations.
12. Protomed told us that customers did threaten to switch to competitors, often if they felt they were under financial pressure. It also noted that its customers had more bargaining power if they were in areas where Protomed did not already have much presence, [REDACTED].

#### *Evidence from customers*

13. We also received evidence from customers on how they negotiated with their suppliers. Rowlands told us that it was [REDACTED].
14. Paydens, Day Lewis and Tesco (all medium-sized pharmacy chains) mentioned volume as a negotiating tool for receiving better discounts. These customers all said that they reviewed prices regularly and checked other suppliers' prices. Day Lewis also used the threat of switching in negotiations and Tesco said that if its volumes increased it would try to negotiate a better price. Neither Paydens, Day Lewis nor [REDACTED].

15. Co-op told us that once it identified products that met the professional and quality standards required, its buying team tried to negotiate a deal. However, if there were multiple suppliers for that product then it negotiated and made a choice based on price.

### **Buyer power**

16. In terms of buyer power, Omnicell/MTS argued that pharmacies which were part of buying groups were able to benefit from the group buying power in terms of lower prices. It said that independent pharmacies could benefit once other customers' prices were known in the market, giving the NHS Scotland and buying group prices as an example of prices that might be observed by other customers and could be used to negotiate lower prices. However, there appeared to be no widespread transparency of actual prices in the market, and we saw no evidence that customers used the prices available to buying groups and NHS Scotland in their negotiations.
17. SurgiChem told us that in the past it had been approached to bid for supplying buying groups but had declined on the basis that it preferred dealing directly with its customers.<sup>9</sup> It explained that this was because dealing indirectly with the end-customer through the buying group did not fit with its overall strategy of developing long-term relationships directly with community pharmacies and smaller pharmacy chains.

### **Analysis of pricing and discounts from sales data**

18. This section presents our analysis of prices and discounting, based on both merging parties' sales data. We examined Omnicell/MTS's and SurgiChem's sales transaction data from the last three years (2011 to 2013) at customer and product level. Our analysis focused solely on adherence packaging products and excluded ancillaries such as stickers, bags, metal hoops and dividers.
19. Omnicell/MTS provided transaction level data from 2009 to 2013 for all sales in the UK.<sup>10</sup> Focusing only on adherence packaging customers, there were a total of [redacted] transactions across [redacted] customers who placed at least one order

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<sup>9</sup> SurgiChem explained that its products were previously in [a buying group's] catalogues. It still had to promote the products itself, whilst paying a commission of [redacted]% to [redacted] when orders were made through it, and hence took the decision in December 2010 to cease supplying [redacted] members with its Nomad Clear (multidose) product. SurgiChem told us that it still supplied some pharmacies that were or had been members of [redacted]. However, it supplied them directly and not through [redacted].

<sup>10</sup> Prior to analysis the data was cleaned to ensure that there were no transactions with negative or zero prices or quantities, and that transactions where prices were abnormal (above list price, for example [redacted]) were removed. Omnicell/MTS told us that transactions with zero prices or zero value were free of charge goods to customers. Transactions with negative values or negative quantities were returned faulty goods.

between 2011 and 2013. Customers were defined at the chain level for pharmacies with multiple stores (rather than at store level), on the basis that this is where prices were likely to be negotiated. Each transaction was for a separate product, but could include more than one unit of that product.

20. Omnicell/MTS have a large range of adherence packaging products, including variations of similar products and those designed and branded for a specific customer. For our analysis we have focused only on the main products (those with the highest sales values in 2013) in order to keep the analysis manageable.
21. SurgiChem provided transaction level data, from 2011 to 2013, for all sales in the UK and abroad.<sup>11</sup> When looking only at adherence packaging sales in the UK, the data set comprised [X] transactions across [X] customers who placed at least one order between 2011 and 2013. Customers were defined at the chain level for pharmacies with multiple stores (rather than at store level), on the basis that this is where prices were likely to be negotiated. Each transaction was for a separate product, but could include more than one unit of that product.
22. SurgiChem has a number of different multidose and single-dose products, including those designed and branded for individual customers. For our analysis we have focused only on the main products (those with the highest sales values in 2013) to keep analysis manageable.
23. This section is split by party and, for each party, investigates:
  - (a) prices and discounts across products;
  - (b) whether prices and discounts changed over time;
  - (c) the range of prices paid;
  - (d) how prices and discounts vary by customers, including:
    - (i) tender customers;
    - (ii) large customers;
    - (iii) buying groups and wholesalers; and
    - (iv) those who source from both parties; and

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<sup>11</sup> Prior to analysis the data was cleaned to ensure that there were no transactions with negative or zero values and that transactions where prices were abnormal (above list price, for example) were removed. SurgiChem told us that transactions with negative or zero values were either credit notes or replacements for faulty goods.

(e) how prices and discounts vary by the volume of purchases.

## **Omnicell/MTS**

### *Pricing by product*

24. Table 1 below shows Omnicell/MTS's average prices, and sales values and volumes for its main adherence packaging products in 2013. We show multi-dose and single-dose separately and distinguish between generic and customised/branded products. The products listed in Table 1 accounted for [%] of the total value of Omnicell/MTS's adherence packaging sales, with multidose products accounting for [%] and single-dose accounting for [%]. Thus our analysis captures the [%] majority of Omnicell/MTS's adherence packaging sales.
25. The 'generic multidose' pack accounts for [%] of all adherence packaging sales, while the 'generic card only' and 'duo' packs account for [%] around [%] of adherence packaging sales each. Omnicell/MTS also supplies branded versions of its adherence packaging to many of its largest customers ([%]). These products are designed specifically for the individual customer with the company's logo replacing Omnicell/MTS's Easyblist branding. More units of the [%] were sold than any other [%]. However, due to the lower price of [%], the sales value for each was [%].
26. For Omnicell/MTS's single-dose products, the card is sold separately from the blisters. The main generic single-dose card accounts for around [%] of all adherence packaging sales. Again there are branded versions of the single-dose card, although the blisters used are non-branded.



than that for the non-biodegradable version. This could in part be due to [redacted] of the biodegradable version and hence [redacted] price paid for this product.

28. In general, it is not possible to determine the discount for the branded products as these are specifically designed and negotiated for an individual customer.<sup>15</sup> However, [redacted], all branded adherence packaging products in Table 1 [redacted].

TABLE 2 Omnicell/MTS's prices and discounts of adherence packaging, 2013

Adherence packaging product	List price £ per unit	Average price £ per unit	Average discount of all volume %*	Average discount of discounted volume %†	% of sales volumes at list prices %
<i>Multidose AP</i>					
MD Generic pack	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MD Generic card only	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MD Generic duo	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
<i>Single-dose AP</i>					
SD Generic card only	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SD Blisters small	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
SD Blisters small bio	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: CMA analysis of Omnicell/MTS data.

\*This is the average discount among all volume (ie includes some volume that was sold at list price).

†This is the average discount among only those that received some discount (among volume that was sold below list price).

Note: Average prices per unit are averaged by volume of sales, rather than averaged by the number of transactions. This means that large transactions are given more weight than smaller transactions. Average discounts are also based on volume of sales; these are calculated as (list price – average price) / list price. Differences of less than 1% between the list price and actual price paid were deemed to be at list price.

### Prices and discounts over time

29. Omnicell/MTS noted that it had not [redacted] the list price of any of its adherence packaging products in the [redacted] and reported that the actual prices customers paid had [redacted] over time.<sup>16</sup> The data suggests (see Table 3) that between 2011 and 2013 prices paid for most products [redacted] (particularly among the branded products). [redacted], the average price paid for the multidose generic pack [redacted]<sup>17</sup> ([redacted]) and the average price for the single-dose generic card [redacted]<sup>18</sup> if the price of the card and blisters<sup>19</sup> were taken as a combined price, then the [redacted].

<sup>15</sup> The list price for the branded products, which is essentially the same as the list price for the generic products, is simply the starting point from which a price is negotiated. Therefore the branded products have not been included in Table 2.

<sup>16</sup> Omnicell/MTS initial submission, paragraph 4.3, p22.

<sup>17</sup> More precisely, [redacted] pence.

<sup>18</sup> More precisely, [redacted] pence.

<sup>19</sup> Assuming that customers are purchasing the single-dose small blisters (the most commonly purchased blisters).



31. The percentage of customers experiencing [X] is lower than the percentage of [X]. This suggests that those buying [X] of the multidose generic pack have been more likely [X].

FIGURE 1

**Omnicell/MTS percentage change in price for each customer purchasing in the first half of 2011 and last half of 2013 (MD generic pack)\***

[X]

Source: CMA analysis of Omnicell/MTS data.

\*This chart includes only customers who purchased in the first half of 2011 and second half of 2013 and shows on the vertical axis the size of price change over that time. Customers who have purchased over 50,000 units over the period have been removed from the graph. [X]

TABLE 4 Omnicell/MTS's proportion of customers/volume with change in price since last period (MD generic pack)

	2011 Jul-Dec	2012 Jan-Jun	2012 Jul-Dec	2013 Jan-Jun	2013 Jul-Dec	Total period
Number of customers (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of customers</i>						
% customers with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]
Volume – '000 (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of volume*</i>						
% volume with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS data.

\*This is the percentage of total volume across the three-year period providing the customer purchased in both the first and last period.

Note: The percentage is based on the change in price between the period and the previous period for customers who purchased in both periods. We consider a change in price for any particular customer if the average price taken in one six-month period had changed by more than 1% from the average price from the previous six-month period. The average prices in each period are volume weighted rather than transaction weighted. When comparing the total period, we consider a change in price for any particular customer if the average price taken in the last six-month period (July to December 2013) had changed by more than 1% from the average price in the base period. Again, this is based on customers who purchased in both periods. The base period is January to June 2011.

32. Turning to Omnicell/MTS's single-dose generic card only, Figure 2 shows the dispersion of price changes over the three-year period. Table 5 shows that [X] of customers of the single-dose generic card only product received a price reduction over this period, and [X]% experienced a price increase.

FIGURE 2

**Omniceil/MTS percentage change in price for each customer purchasing in the first half of 2011 and last half of 2013 (single-dose generic card only)\***

[X]

Source: CMA analysis of Omnicell/MTS data.

\*This chart includes only customers who purchased in the first half of 2011 and second half of 2013 and shows on the vertical axis the size of price change over that time. Customers who have purchased over 50,000 units over the period have been removed from the graph. [X]

TABLE 5 Omnicell/MTS's proportion of customers/volume with change in price since last period (SD generic card only)

	2011 Jul-Dec	2012 Jan-Jun	2012 Jul-Dec	2013 Jan-Jun	2013 Jul-Dec	Total period
Number of customers (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of customers</i>						
% customers with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]
Volume – 000's (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of volume *</i>						
% volume with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS data.

\*This is the percentage of total volume across the three-year period providing the customer purchased in both the first and last period.

Note: The percentage is based on the change in price between the period and the previous period for customers who purchased in both periods. We consider a change in price for any particular customer if the average price taken in one six-month period had changed by more than 1% from the average price from the previous six-month period. The average prices in each period are volume weighted rather than transaction weighted. When comparing the total period, we consider a change in price for any particular customer if the average price taken in the last six-month period (July to December 2013) had changed by more than 1% from the average price in the base period. Again, this is based on customers who purchased in both periods. The base period is January to June 2011.

33. With regard to both the branded products for the large customers and products bought by buying groups,<sup>22</sup> there was [X] for any branded products during this time.
34. To identify whether existing customers were able to get better prices than new customers, or vice versa, we compared the prices paid by those customers who purchased in both 2012 and 2013 (existing customers) against those paid by customers who purchased only in 2013 (new customers). For those purchasing the multidose generic pack, Figure 3 shows that there is [X] that existing customers were [X] at the same volumes than newer customers.

<sup>22</sup> Occasionally there are one-off transactions at prices above the constant price; these are presumably where a buying group member has not bought through the buying group.

FIGURE 3

**Omniceil/MTS average price by volume comparing new customers with existing customers (multidose generic pack)\***

[✂]

Source: CMA analysis of Omnicell/MTS data.

\*Existing customers are defined as those who purchased the multidose generic pack in both 2012 and 2013, while new customers are those who only purchased in 2013. Prices and quantities shown in the chart are for 2013 only. Customers purchasing over 100,000 units have been excluded from this chart (all existing customers). [✂]

*The range of prices*

35. We also considered price and discounting dispersion for customers buying the generic products to establish the range of prices customers were paying. The results are shown in Figure 4 below for 2013 as box-and-whiskers plots for actual prices paid at individual transaction level.<sup>23</sup>
36. There is a [✂] in price for the multidose generic products, with some customers paying [✂] (prices [✂]). While the median price is [✂].

FIGURE 4

**Omniceil/MTS: dispersion of actual prices for generic adherence packaging products**

[✂]

Source: CMA analysis of Omnicell/MTS data.

*Prices and discounts across customers*

37. We examined prices and discounts for various groups of customers. In particular, we considered whether tender customers, larger customers or buying groups get better prices.
38. In relation to tender customers, as set out in Table 1, [✂] and list price of 39 pence for the multidose generic pack. Although we cannot compare directly across the different products,<sup>24</sup> the prices paid by the three tendering

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<sup>23</sup> Box-and-whiskers plots are a useful way of summarising a lot of dispersion information visually. The box-and-whiskers plot splits the data into quartiles, with each of the four quartiles accounting for 25% of the observations, with the data ordered by price. The upper quartile shows the range from the maximum price to the price after 25% of observations. This is represented by the 'T' in the diagram (a whisker). They also show the median price paid (this is the price at which half the prices are higher and half the prices are lower), which is the line within the grey box. The lower quartile is the bottom 25% of observations represented by the upside down 'T'. Occasionally there will be dots above or below the whiskers, which represents outliers.

<sup>24</sup> Each branded product is specifically designed and negotiated with that single customer.

customers [X]. It is also worth noting that of all the tendering customers, [X] has the highest volumes [X].

39. Of other large customers, [X] (a wholesaler/distributor) was paying [X]. Again, this compares with [X] pence as the average price for the generic multidose pack.
40. Table 6 below shows prices and discounts for the main buying groups – [X] members were getting prices [X] by all customers of the generic multidose pack.<sup>25</sup> Avicenna members paid [X] than the average [X], while [X] customers got the [X]. It should be pointed out that this is [X] than the [X].<sup>26</sup> However, [X] the average prices paid by buying groups were [X] than the average for all customers, nearly all members were able to get [X], which [X]. For the generic single-dose card and the small blisters, [X].

TABLE 6 Omnicell/MTS's prices and discounts of adherence packaging for buying groups, 2013

Adherence packaging product	Buying group	List price £ per unit	Average price £ per unit	Overall average discount %	% of sales volumes at list prices %
<i>Multi-dose AP</i>					
MD Generic pack	[X]	[X]	[X]	[X]	[X]
MD Generic pack	[X]	[X]	[X]	[X]	[X]
MD Generic pack	[X]	[X]	[X]	[X]	[X]
MD Generic pack	[X]	[X]	[X]	[X]	[X]
MD Generic pack	[X]	[X]	[X]	[X]	[X]
<i>Single-dose AP</i>					
SD Generic card only	[X]	[X]	[X]	[X]	[X]
SD Generic card only	[X]	[X]	[X]	[X]	[X]
SD Generic card only	[X]	[X]	[X]	[X]	[X]
SD Generic card only	[X]	[X]	[X]	[X]	[X]
SD Generic card only	[X]	[X]	[X]	[X]	[X]
SD Blisters small	[X]	[X]	[X]	[X]	[X]
SD Blisters small	[X]	[X]	[X]	[X]	[X]
SD Blisters small	[X]	[X]	[X]	[X]	[X]
SD Blisters small	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS data.

Note: Average prices per unit are averaged by volume of sales, rather than averaged by the number of transactions. This means that large transactions are given more weight than smaller transactions. Average discounts are also based on volume of sales; these are calculated as (list price – average price) / list price, and are based on all sales, whether discounted or not. Differences of less than 1% between the list price and actual price paid were deemed to be at list price.

### Prices and discounts by volume

41. We examined whether prices/discounts varied by the volume of purchases. Figures 5 and 6 below show scatter plots of prices plotted against volumes purchased in 2013 for the multidose generic pack, single-dose generic card only and single-dose blisters.

<sup>25</sup> ie this does not include the largest customers.

<sup>26</sup> Some [X] customers purchase the generic multidose pack rather than the [X]-branded pack.

42. Figure 5 displays the average price each customer paid for the multidose generic pack by the numbers of units it purchased in 2013. Each dot represents a separate customer. The different symbols are used to distinguish different-sized customers. The ten largest customers were removed from Figure 6 to improve the clarity around the smaller customers. We observe a range of prices at all volumes and [✂]. This is confirmed from the Pearson correlation coefficient of [✂],<sup>27</sup> which suggests a [✂].<sup>28</sup>

FIGURE 5

**Omnicell/MTS customers' prices for the multidose generic pack, 2013**

[✂]

Source: CMA analysis of Omnicell/MTS data.

FIGURE 6

**Omnicell/MTS customers' prices for the multidose generic pack, 2013 (excluding the top ten customers)\***

[✂]

Source: CMA analysis of Omnicell/MTS data.

\*This chart excludes the ten largest customers for the multidose generic pack.

43. Figures 7 and 8 display the same information for the single-dose generic card only. Overall the scatterplots and correlation coefficients suggest that [✂], indicating that [✂] for larger volumes.

FIGURE 7

**Omnicell/MTS customers' prices for the single-dose generic card only, 2013**

[✂]

Source: CMA analysis of Omnicell/MTS data.

FIGURE 8

**Omnicell/MTS customers' prices for the single-dose generic card only, 2013 (excluding the top ten customers)\***

[✂]

Source: CMA analysis of Omnicell/MTS data.

\*This chart excludes the ten largest customers for the single-dose generic card.

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<sup>27</sup> A Pearson's correlation coefficient measures how much one variable changes in relation to a change in another. This can take values between zero and one, and be positive or negative.

<sup>28</sup> We also looked at the relationship between prices and quantities of single transactions, but the relationship was very similar to that when looking at annual volumes.

- 44. We also compared average prices paid by customers for Omnicell/MTS's multidose generic pack with the frequency of purchases to see whether fewer transactions resulted in lower prices. [X]
- 45. Overall, while there seems to be a [X].

*Dual-sourcing vs single-sourcing customers*

- 46. We also examined whether there was any systematic difference in prices paid by customers who purchase adherence packaging from both Omnicell/MTS and SurgiChem (dual sourcing) versus those who purchase from Omnicell/MTS only. Figures 9 and 10 below present the results of this analysis. In these scatterplots each dot represents a separate customer's average price in 2013. As well as comparing dual-sourcing customers (dark circles) against single-sourcing (light Xs), it also shows prices against the volume of units purchased to control for volume discounts.
- 47. Generally, dual-sourcing customers seem to pay a [X] for the generic multi-dose and single-dose cards. However, there is some [X]. While this does not include those largest customers purchasing the branded cards, [X].<sup>29</sup>

FIGURE 9

**Omnicell/MTS customers' prices for the multidose generic pack by single sourcing and dual sourcing\***

[X]

Source: CMA analysis of Omnicell/MTS data.

\*Dual-sourcing customers were defined as customers who bought a multidose product from both Omnicell/MTS and SurgiChem in 2013. Customers who have purchased over 100,000 units over the period have been removed from this chart. [X]

FIGURE 10

**Omnicell/MTS customers' prices for the single-dose generic card by single sourcing and dual sourcing\***

[X]

Source: CMA analysis of Omnicell/MTS data.

\*Dual-sourcing customers were defined as customers who bought a single-dose product from both Omnicell/MTS and SurgiChem in 2013. Customers who have purchased over 100,000 units over the period have been removed from this chart. [X]

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<sup>29</sup> [X]

## **SurgiChem**

### *Pricing by product*

48. Table 7 below shows SurgiChem's average prices, sales values and volumes for its main adherence packaging products in 2013. The main products listed in Table 7 accounted for [%] of SurgiChem's total value of adherence packaging sales in 2013.
49. SurgiChem's multidose adherence products are divided into the Nomad Clear range, with an XL and coloured version, as well as the newer, cheaper, Clear 2 version. SurgiChem also sold a multidose product range aimed at Care Homes, Nomad MDS. This consists of a reusable 'cassette'<sup>30</sup> and disposable plastic inserts, known as MDS trays. SurgiChem also supplies branded versions of the Nomad Clear and Nomad Clear 2 products, which are shown separately under multidose products in Table 7. SurgiChem's single-dose adherence packaging (Nomad Concise) includes blisters as part of the pack.
50. For the following analysis we focus on SurgiChem's main multidose product (Nomad Clear) and main single-dose product (Nomad Concise) as well as customised/branded versions of Nomad Clear. Sales of the Nomad Clear pack far outweigh those of any other product, accounting for [%] of adherence packaging sales by value. Sales of the MDS system are relatively small (approximately [%] of all adherence packaging sales). SurgiChem's biggest customer is [%], purchasing over [%] units of the Clear [%] pack.

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<sup>30</sup> The list price for a cassette was £[%].

TABLE 7 SurgiChem's sales of adherence packaging, 2013

Adherence packaging product	Total volume '000	Total value £'000	Average price £ per unit	Proportion of total AP sales value %
Multidose AP	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Nomad Clear Pack	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Nomad Clear 2 Pack	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Nomad Clear XL Pack	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Nomad Clear Pack Coloured	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Duo Pack	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MDS tray (250 size)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MDS tray (500 size)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
MDS tray (1000 size)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Single-dose AP	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Nomad Concise Pack	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total above	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total AP	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: CMA analysis of SurgiChem data.

Note: Average prices per unit are averaged by volume of sales, rather than averaged by the number of transactions. This means that large transactions are given more weight than smaller transactions.

51. Table 8 below shows list prices, actual prices paid by customers in 2013, and discounts received off list price. The average discount for the Nomad Clear Pack, Clear 2 Pack and Clear Coloured pack were similar (between [REDACTED] and [REDACTED]% of all sales,<sup>31</sup> or [REDACTED]% of sales that were at a discounted price). However, discounts were [REDACTED] for the Clear XL pack ([REDACTED]%). Just over [REDACTED] of customers were paying the list price for the Clear and Clear 2 pack, with [REDACTED] for the Clear coloured pack. The average discount for Nomad Concise among all sales was [REDACTED]% with [REDACTED]% paying list prices. The average discount was [REDACTED]% among those that got at least some discount.
52. [REDACTED] In particular, comparing Omnicell/MTS's multidose generic pack with SurgiChem's Nomad Clear pack shows similar list prices ([REDACTED] pence and [REDACTED] pence respectively) [REDACTED]. For single-dose products, Nomad Concise has a lower list price of [REDACTED] pence compared with Omnicell's [REDACTED] pence ([REDACTED] pence for the card and [REDACTED] pence for the blisters). [REDACTED]

<sup>31</sup> This is the average discount weighted by volume of sales among all sales, whether discounted or at zero discount.

TABLE 8 SurgiChem's prices and discounts of adherence packaging, 2013

<i>Adherence packaging product</i>	<i>List price £ per unit</i>	<i>Average price £ per unit</i>	<i>Average discount of all volume %*</i>	<i>Average discount of discounted volume %†</i>	<i>% of sales volumes at list prices %</i>
<i>Multidose AP</i>					
Nomad Clear Pack	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nomad Clear 2 Pack	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nomad Clear XL Pack	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Nomad Clear Pack Coloured	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
<i>Duo Pack</i>					
Duo Pack	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MDS tray (250 size)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MDS tray (500 size)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MDS tray (1000 size)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
<i>Single-dose AP</i>					
Nomad Concise Pack	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Source: CMA analysis of SurgiChem data.

\*This is the average discount among all volume (ie includes some volume that was sold at list price).

†This is the average discount among only those that received some discount (among volume that was sold below list price).

Note: Average prices per unit are averaged by volume of sales, rather than averaged by the number of transactions. This means that large transactions are given more weight than smaller transactions. Average discounts are also based on volume of sales; these are calculated as (list price – average price) / list price. Differences of less than 1% between the list price and actual price paid were deemed to be at list price.

### Prices and discounts over time

53. SurgiChem told us that in October 2012 it had increased the list price by around [redacted]% (from [redacted] to [redacted] pence) of its Nomad Clear product (including Nomad Clear [redacted] branded version, but not the [redacted] branded version) while simultaneously launching a new product at a lower price. With this exception, SurgiChem noted that it had not changed the list price for any other adherence packaging products. Table 9 shows that the average actual prices for Nomad Clear increased by [redacted]% between 2011 and 2013.

TABLE 9 SurgiChem's average prices for adherence packaging over time, 2011 to 2013

Adherence packaging product	2011	2012	2013	% change 2011-13
<i>Multidose AP</i>				
Nomad Clear Pack	[X]	[X]	[X]	[X]
Nomad Clear 2 Pack	[X]	[X]	[X]	[X]
Nomad Clear XL Pack	[X]	[X]	[X]	[X]
Nomad Clear Pack Coloured			[X]	[X]
<i>Duo Pack</i>				
MDS tray (250 size)	[X]	[X]	[X]	[X]
MDS tray (500 size)	[X]	[X]	[X]	[X]
MDS tray (1000 size)	[X]	[X]	[X]	[X]
[X]	[X]	[X]	[X]	[X]
[X]			[X]	[X]
[X]	[X]	[X]	[X]	[X]
[X]	[X]	[X]	[X]	[X]
<i>Single-dose AP</i>				
Nomad Concise Pack	[X]	[X]	[X]	[X]

Source: CMA analysis of SurgiChem data.

\*Where there were no sales of a product in 2011 but there were in 2012 and 2013, the % change is from 2012 to 2013 only. Note: Average prices per unit are averaged by volume of sales, rather than averaged by the number of transactions. This means that large transactions are given more weight than smaller transactions.

54. For Nomad Clear, there was some variation in the size of price changes that different customers received between the first half of 2011 and the last half of 2013. This ranged from price increases of up to [X]% to price decreases of around [X]% (see Figure 11). However, most customers had a price increase, including larger customers. The majority of customers ([X] and [X]% of volume) received an increase in price between the first half of 2011 and the last half of 2013, while only [X]% received a reduction in price.<sup>32</sup>

FIGURE 11

**SurgiChem percentage change in price for each customer purchasing in the first half of 2011 and last half of 2013 (Nomad Clear)\***

[X]

Source: CMA analysis of SurgiChem data.

\*This chart includes only customers who purchased in the first half of 2011 and second half of 2013 and shows on the vertical axis the size of price change over that time. Customers who have purchased over 100,000 units over the period have been removed from the graph. These were [X] ([X] units @ [X]% increase in prices), and [X] ([X] units at [X]).

<sup>32</sup> Of those who purchased in both periods.

TABLE 10 SurgiChem’s proportion of customers/volume with change in price since last period (Nomad Clear)

	2011 Jul–Dec	2012 Jan–Jun	2012 Jul–Dec	2013 Jan–Jun	2013 Jul–Dec	Total period
Number of customers (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of customers</i>						
% customers with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]
Volume – '000 (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of volume*</i>						
% volume with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of SurgiChem data.

\*This is the percentage of total volume across the three-year period providing the customer purchased in both the first and last period.

Note: The percentage is based on the change in price between the period and the previous period for customers who purchased in both periods. We consider a change in price for any particular customer if the average price taken in one six-month period had changed by more than 1% from the average price from the previous six-month period. The average prices in each period are volume weighted rather than transaction weighted. When comparing the total period, we consider a change in price for any particular customer if the average price taken in the last six-month period (July–December 2013) had changed by more than 1% from the average price in the base period. Again, this is based on customers who purchased in both periods. The base period is January to June 2011.

55. In contrast, there was relatively little change in the price of Nomad Concise. Around [X] of customers received a price change over this period and in general price changes were (relative to other products and Omnicell) quite small. The average price of Nomad Concise decreased by [X]% (less than [X]) between 2011 and 2013. Figure 12 shows the dispersion of price changes over this period for customers who purchased in the first half of 2011 and in the second half of 2013 and Table 11 shows the proportion of customers experiencing changes to the price they pay.

FIGURE 12

**SurgiChem percentage change in price for each customer purchasing in the first half of 2011 and last half of 2013 (Nomad Concise)\***

[X]

Source: CMA analysis of SurgiChem data.

\*This chart includes only customers who purchased in the first half of 2011 and second half of 2013 and shows on the vertical axis the size of price change over that time. Customers who have purchased over 100,000 units over the period have been removed from the graph. These are [X] ([X] units at [X]), [X] ([X] units at [X]% reduction in price), [X] ([X] units at [X]% increase in price), and [X] ([X] units at [X]% reduction in price).

TABLE 11 SurgiChem’s proportion of customers/volume with change in price since last period (Nomad Concise)

	2011 Jul-Dec	2012 Jan-Jun	2012 Jul-Dec	2013 Jan-Jun	2013 Jul-Dec	Total period
Number of customers (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of customers</i>						
% customers with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% customers with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]
Volume – '000 (base)	[X]	[X]	[X]	[X]	[X]	[X]
<i>% of volume*</i>						
% volume with any change in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with increase in price	[X]	[X]	[X]	[X]	[X]	[X]
% volume with decrease in price	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of SurgiChem data.

\*This is the percentage of total volume across the three-year period providing the customer purchased in both the first and last period.

Note: The percentage is based on the change in price between the period and the previous period for customers who purchased in both periods. We consider a change in price for any particular customer if the average price taken in one six-month period had changed by more than 1% from the average price from the previous six-month period. The average prices in each period are volume weighted rather than transaction weighted. When comparing the total period we consider a change in price for any particular customer if the average price taken in the last six-month period (July–December 2013) had changed by more than 1% from the average price in the base period. Again, this is based on customers who purchased in both periods. The base period is January to June 2011.

56. As for the Nomad Clear branded products, the negotiated price also increased for [X] by [X]% and [X] by [X]%, while it did not change for [X] (which was paying more than many other large customers both before and after the price rise).
57. To identify whether existing customers were able to get better prices than new customers, or vice versa, we compared the prices paid by those that purchased in both 2012 and 2013 (existing customers) with those paid by customers that only purchased in 2013 (new customers). For those purchasing Nomad Clear, Figure 13 shows that there is no clear pattern that existing customers were getting better or worse prices at the same volumes than newer customers.

FIGURE 13

**SurgiChem’s average price by volume comparing new customers with existing customers (Nomad Clear)\***

[X]

Source: CMA analysis of SurgiChem data.

\*Existing customers are defined as those that purchased in both 2012 and 2013, while new customers are defined as those that only purchased in 2013. The prices are averages across 2013 and the quantity is the sum across 2013. The largest customers have been excluded from this chart (all existing customers). These were [X] ([X] units at [X] pence), [X] ([X] at [X] pence), [X] ([X] units at [X] pence), [X] ([X] units at [X] pence), and [X] ([X] units at [X] pence).

### *The range of prices*

58. We also considered the dispersion of prices for SurgiChem’s generic products. The results are shown in Figure 14 below as box-and-whiskers plots for actual prices paid in 2013.<sup>33</sup> Although the median price for Nomad Clear 2 is lower than that of Nomad Clear, there is almost no difference in the lowest price being paid between both products. [X]

FIGURE 14

### **SurgiChem: dispersion of actual prices for generic adherence packaging products**

[X]

Source: CMA analysis of SurgiChem data.

### *Prices and discounts across customers*

59. We examined prices and discounts for various groups of customers. SurgiChem does not supply any customers directly through a contract resulting from a tender. However, it does still sell both multidose and single-dose adherence packaging to [X] pays more per unit than [X] for SurgiChem’s product, even though it is purchasing larger volumes than these customers.
60. SurgiChem told us that it did not supply buying groups. We compared prices that [X] (a dispensing doctor’s buying group), [X] and [X] pay compared with those paid by other customers. We also considered the prices that other large customers paid. These prices are shown in Table 12.
61. With the exception of [X], all the large customers listed in Table 12, and buying groups ([X] from Table 9 above), were negotiating prices lower than the average for the Nomad Clear pack, but for most of these customers the price was not much lower. These prices were clustered between [X] and [X] pence per unit compared with the average of [X] pence for all customers. [X] For the Nomad Concise product, only [X] and [X] were paying above the average price of [X] pence paid by other SurgiChem customers, but none of SurgiChem’s customers were able to negotiate large discounts (whether or not they were a large customer).

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<sup>33</sup> See footnote to paragraph 35 for an explanation of box-and-whiskers plots.

TABLE 12 SurgiChem’s prices and discounts of adherence packaging for buying groups and large customers, 2013

Adherence packaging product	Customer	List price £ per unit	Average price £ per unit	Overall average discount %	% of sales volumes at list prices %
<b>Multidose AP</b>					
<i>Buying groups/wholesalers</i>					
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
<i>Large customers</i>					
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]
<b>Single-dose AP</b>					
<i>Buying groups/wholesalers</i>					
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]
<i>Large customers</i>					
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of SurgiChem data.

\*[X] is not in fact one of the top 20 adherence packaging customers for SurgiChem, but is included for comparison with Omnicell/MTS.

Note: Average prices per unit are averaged by volume of sales, rather than averaged by the number of transactions. This means that large transactions are given more weight than smaller transactions. Average discounts are also based on volume of sales; these are calculated as (list price – average price) / list price, and are based on all sales, whether discounted or not. Differences of less than 1% between the list price and actual price paid were deemed to be at list price.

### Prices and discounts by volume

62. We examined whether prices/discounts varied by the volume of purchases. Figure 15 displays the average price each customer paid for the Nomad Clear multidose pack by the quantity of units it purchased in 2013. In Figure 16, the ten largest customers were removed to improve the clarity around the smaller customers.
63. The scatterplots do not show a clear indication of customers purchasing larger volumes always receiving lower prices. Some customers with relatively small volumes receive larger discounts and vice versa. The Pearson correlation coefficient of -0.12<sup>34</sup> suggests that there is only a weak relationship between prices and volumes.<sup>35</sup>

<sup>34</sup> A Pearson’s correlation coefficient measures how much one variable changes in relation to a change in another. This can take values between zero and one, and be positive or negative.

<sup>35</sup> We also looked at the relationship between prices and volumes of single transactions, but the relationship was very similar to that when looking at annual volumes.

FIGURE 15

**SurgiChem customers' prices for the Nomad Clear generic pack, 2013**



Source: CMA analysis of SurgiChem data.

FIGURE 16

**SurgiChem customers' prices for the Nomad Clear generic pack, 2013 (excluding the top ten customers)\***



Source: CMA analysis of SurgiChem data.

\*This chart excludes the ten largest customers for the Nomad Clear pack.

64. Figures 17 and 18 show average prices plotted against total customer volumes of the Nomad Concise single-dose product. Overall the scatterplots and correlation coefficients suggest that while there is some relationship between volume and price it is not particularly strong with larger volumes not always resulting in a larger discount off list prices.

FIGURE 17

**SurgiChem customers' prices for the Nomad Concise pack, 2013**



Source: CMA analysis of SurgiChem data.

FIGURE 18

**Omniceil/MTS customers' prices for the Nomad Concise pack, 2013 (excluding the top ten customers)\***



Source: CMA analysis of SurgiChem data.

\*This chart excludes the ten largest customers for the Nomad Concise pack.

65. We also compared average prices paid by customers for Nomad Clear with the frequency of purchases to see whether fewer transactions resulted in lower prices. However, we did not find any consistent pattern that prices decreased as fewer individual purchases were made (less frequent transactions).
66. Overall we observe some indication of a weak negative relationship between prices and volume (meaning that higher volumes are only weakly associated with lower prices/higher discounts), but there are some customers with relatively small volumes receiving larger discounts and vice versa.

## *Dual-sourcing vs single-sourcing customers*

67. We also examined whether there was any systematic difference in prices paid by customers who purchase adherence packaging from both Omnicell/MTS and SurgiChem (dual sourcing) versus those who purchase from SurgiChem only. Figures 19 and 20 present the results of this analysis as scatter plots. In these scatter plots each dot represents a separate customer's average price across 2013. As well as comparing dual-sourcing customers (dark circles) against single-sourcing (light Xs), it also shows prices against the volume of units purchased to control for volume discounts. While many dual-sourcing customers seem to be purchasing larger volumes of adherence packaging, it is not clear that they are receiving consistently lower prices at similar volumes as single-sourcing customers.

FIGURE 19

### **SurgiChem customers' prices for the Nomad Clear pack by single and dual sourcing, 2013\***

[✂]

*Source:* CMA analysis of SurgiChem data.

\*Dual-sourcing customers were defined as customers who bought a multidose product from both Omnicell/MTS and SurgiChem in 2013. Customers who have purchased over 500,000 units over the period have been removed from the graph. [✂]

FIGURE 20

### **SurgiChem customers' prices for the Nomad Concise pack by single and dual-sourcing, 2013\***

[✂]

*Source:* CMA analysis of SurgiChem data.

\*Dual-sourcing customers were defined as customers who bought a single-dose product from both Omnicell/MTS and SurgiChem in 2013. Customers who have purchased over 1 million units over the period have been removed from the graph. [✂]

## ***Competitors' pricing***

68. We also examined prices of the merger parties' competitors – Venalink, Protomed and Shantys. This analysis is based on the data submitted to us by these suppliers.

## Venalink

69. Table 13 below shows Venalink’s average prices for its main multidose and single-dose adherence packaging products for 2011, 2012 and 2013.<sup>36</sup> It also shows unit costs (ie cost of sales) for these products. We observe that, with the exception of multidose Qube and single-fold cards, average prices have not changed [X]. Unit costs have been unchanged for some products, increased for some ([X]), and decreased for others ([X]). Thus, there is no clear pattern in what has happened with the unit costs for Venalink.

TABLE 13 Venalink’s average actual prices and cost prices for its main adherence packaging products, 2011 to 2013

Adherence packaging product	Average price £/unit			Unit costs £/unit		
	2011	2012	2013	2011	2012	2013
MD – Qube	[X]	[X]	[X]	[X]	[X]	[X]
MD – tri-fold	[X]	[X]	[X]	[X]	[X]	[X]
MD – single fold	[X]	[X]	[X]	[X]	[X]	[X]
SD – coloured	[X]	[X]	[X]	[X]	[X]	[X]
SD – plain	[X]	[X]	[X]	[X]	[X]	[X]
Qube blisters	[X]	[X]	[X]	[X]	[X]	[X]
Square blisters	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Venalink data.

Note: Average price is the volume-weighted average. MD = multidose, SD = single-dose.

## Protomed

70. Figure 1 below shows average prices of Protomed’s Biodose product for 2011, 2012 and 2013. It told us that list price had been unchanged, at £[X] per unit, since the introduction of the product in 2009. [X]

FIGURE 21

### Biodose average price, 2011 to 2013

[X]

Source: Protomed.

## Shantys

71. Shantys told us that its price for selling its multidose plastic product to wholesalers/distributors had been [X] per unit in the last three years, and that the list price for onwards sales to pharmacies by wholesalers/distributors had been £[X] per unit over the period. Shantys said that it did not have visibility of discounting of prices of its products by wholesalers, but it believed volume

<sup>36</sup> The three multidose products accounted for [X]% of its multidose sales revenue in 2013, and the two single-dose products accounted for [X]% of its single-dose sales revenue in 2013 (this is card only, excluding blisters).

discounts to be relatively widespread, with discounts being in the range of [REDACTED] to [REDACTED]%. Shantys noted that the unit cost of its multidose product was £[REDACTED].

## Analysis of customer overlaps and switching

### Introduction and summary

1. This appendix presents evidence and analysis on customer overlaps and switching in relation to adherence packaging. We also look at evidence on whether switching adherence packaging products or suppliers is easy or difficult, and what the main barriers to switching are. We mainly consider those customers which do not put out formal tenders in this analysis.
2. We considered the following evidence and carried out the following analysis in relation to switching and in relation to the merger parties' customers:
  - (a) Omnicell/MTS's and SurgiChem's views on switching, and what large customers and competitors have said about the extent of switching and ease of switching (based on responses to questionnaires and on hearings).
  - (b) Omnicell/MTS's and SurgiChem's analyses of customer switching and churn.
  - (c) Analysis of parties' sales databases to examine the make-up of their customer bases, customer overlaps, churn, and any signs of customer switching between the two parties.
  - (d) An analysis of SurgiChem's customers' reaction to an increase in the price of Nomad Clear, SurgiChem's main multidose adherence packaging product.

### Views on the extent of and barriers to switching

3. Both Omnicell/MTS and SurgiChem noted that pharmacies can and do switch suppliers and that in most cases there are no technical or financial costs associated with a switch. This includes switching between different suppliers, including between suppliers of plastic-based blister packs and those that supply card-based blister packs, and vice versa. SurgiChem noted that its customers did not sign contracts and could therefore switch at any time.
4. Venalink submitted that it took on [REDACTED] in 2013 and believed that those customers switched from competitors. It also commented that it believed the switching rate could be around 20% between similar products (such as between its product and Omnicell/MTS's) in a year, but that it would expect

less switching between suppliers of card and plastic products as products were more dissimilar.

5. Protomed was of a view that 'the relationship between a care home and a supplying pharmacy is not secure and switching is relatively common'. It noted that during the last 12 months it had signed up [X] new pharmacy customers but lost [X] existing customers, some of which ceased to exist rather than switched to another supplier. These figures compare with a total of [X] pharmacy customers Protomed had in the UK in March 2013.
6. Customers and some competitors in general expressed a view that switching was easy:
  - (a) Mid Counties Cooperative submitted that switching was straightforward.
  - (b) Co-op Pharmacy said that switching suppliers was relatively easy depending on the terms of the contract.
  - (c) Venalink said that there were no switching costs for a business and it did not expect there to be any retraining needs following a switch.
  - (d) Boots commented on its switching experience as a relatively easy process and that it did not experience any pushback from the end-users.
  - (e) NHS Scotland said that switching to a different product or supplier could be done easily and quickly.
  - (f) Lloyds considered that from an operational perspective switching was relatively easy but it was more of a clinical/professional standards choice for pharmacies rather than a major issue operationally.
  - (g) Tesco Pharmacies noted that it would be relatively easy to switch to new suppliers: it would assess the suitability of the product, and, as the products were fairly similar, would not find it too difficult to communicate the change and to switch customers.
7. However, some customers did suggest that there were some costs associated with switching:
  - (a) Co-op Pharmacy considered that switching might be disruptive to patients and a communications plan, involving staff training and briefings, would be needed to ensure patient safety. It considered that customer views would be important before making a decision to switch.
  - (b) PCT Healthcare, a mid-sized customer, noted that switching to a different supplier might require additional training and communication with

consumers in cases where the new product was different to the one being used.

- (c) Avicenna (a buying group) said that switching would be difficult because the seal machines, patient labels and other aspects of the system would need to be changed.
  - (d) Rowlands did not think its end-users were 'sticky', although there were customers who would not like to change, but that there were logistical reasons which would make switching difficult. As a result, [✂].
  - (e) Paydens was of the view that it would not be a simple exercise to change supplier from its custom-printed cards (it mentioned ensuring standard of the product as a consideration), and that it would consider quality of seal, volume of blister and reliability of delivery when switching.
8. Many customers then noted that even though switching may be easy, there was reluctance to do it in reality, mostly because of the general inertia, the potential reaction of their own staff in pharmacies, or the reaction of end-users:
- (a) Norchem Healthcare, a small pharmacy chain, said that a barrier to switching would be managing the change for customers, and because of this it would be reluctant to switch.
  - (b) Pharm-Assist, which was switching from the SurgiChem product to the Omnicell/MTS product, noted the difficulty of getting staff on board when changing the product, but did not consider that there were any significant barriers to switching otherwise.
  - (c) Numark noted that care homes' preferences over type of product would be an important consideration when switching, as care homes could themselves switch to a different pharmacy if they were not happy with the type of product.
  - (d) NHS Scotland noted that people might not want to switch due to familiarity with a particular product.
  - (e) Macpac (SurgiChem's supplier) also noted that there might be reluctance to switch because people did not like change.
9. We have also considered that a barrier to switching may arise where the NHS reimburses some of the costs of adherence packaging and only approves certain suppliers. For example, NHS Scotland has approved two suppliers – Omnicell/MTS and Venalink – for granting reimbursement for pharmacies'

purchases of multidose adherence packaging; if pharmacies in Scotland use other suppliers they do not get reimbursed. However, Co-op Pharmacy noted that some of its pharmacies in Scotland might purchase from other suppliers than those on the NHS Scotland approved list.

10. The customer survey of smaller and medium-sized pharmacies suggested that the majority of pharmacies considered that switching suppliers would be easy: 83% of the 145 Omnicell/MTS customers surveyed and 68% of the 278 SurgiChem customers surveyed said that it would be 'very easy' or 'quite easy' to switch suppliers. The top three reasons given for why switching was considered easy by these 311 pharmacies in total were: availability of lots of other suppliers (28%), other suppliers offering similar products (27%), and little effort or time taken to switch (19%). For those 53 pharmacies that said switching suppliers was 'difficult' or 'very difficult' the main reason given was that pharmacies' customers were familiar with the product and would not want to change (53%).
11. Pharmacies who responded that switching was 'easy' or 'very easy' but had not switched supplier in the last three years were asked the reasons for this. The key reasons for not switching, despite considering it would be easy to do, were (in descending order of frequency of mentions): price, reliability of service, quality of products, end-users' familiarity with the products, and habit of purchasing from the current supplier.

## **Parties' analysis of switching and churn**

### ***PwC analysis of customer switching***

12. Omnicell/MTS submitted an analysis conducted by PwC of the parties' market shares and customer switching over a three-year period from 2011 to 2013. This analysis included all sole pharmacies (pharmacies that do not belong to a chain) in the UK. Each of these pharmacies was marked as a customer of either Omnicell/MTS, SurgiChem, both or 'other' suppliers for each of the years in the analysis, under the assumption that every pharmacy purchases adherence packaging. This was then used to calculate the respective market shares and the numbers of customers who switched between years.
13. The PwC analysis suggests that business lost by either party was [REDACTED]. We estimated that their figures suggest around [REDACTED]% of the sole pharmacies were

lost as exclusive customers in any given year.<sup>1</sup> Some of these losses, however, resulted in the pharmacy subsequently [REDACTED].

14. Based on this switching activity PwC found that the diversion ratio from Omnicell/MTS to SurgiChem was [REDACTED]% (depending on the time period considered).<sup>2</sup> The diversion from SurgiChem to Omnicell/MTS was found to be [REDACTED]%. In addition, PwC found [REDACTED] rates of switching from one of the suppliers to combined supply of both, namely, [REDACTED]% diversion from Omnicell/MTS only to both Omnicell/MTS and SurgiChem, and [REDACTED]% diversion from SurgiChem to both SurgiChem and Omnicell/MTS.
15. PwC noted that the estimated diversion ratios between the two merging parties were lower than might be expected based on their market shares.
16. While this analysis is informative alongside other sources of evidence, it rests on a number of assumptions which call into question the robustness of the results. We note in particular the following limitations:
  - (a) The analysis uses data on sole pharmacies only. These types of pharmacies represent around a quarter of all pharmacy stores in the UK (3,550 out of a total of around 14,000 in 2013).<sup>3</sup>
  - (b) The market shares are calculated on an unweighted basis. That is, each outlet is given the same weight regardless of the volume of sales.
  - (c) The analysis relies on the assumption that any pharmacies that do not purchase adherence packaging from either of the two parties purchase from some other supplier of adherence packaging. We consider it likely that this is not the case.<sup>4</sup> This may have two implications: first, the true switching rates (proportion of customers who switch) may be lower than

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<sup>1</sup> This includes customers that were purchasing exclusively from one of the merging parties in one year and then purchased from another supplier or from both the merging parties the following year. The percentage is calculated on the total base of active exclusive customers at the beginning of the year, that is, excluding customers that were sourcing from both the merging parties and also excluding customers that were known to cease to operate by the end of that year.

<sup>2</sup> In this context this means that [REDACTED]% of customers who were in one year purchasing exclusively from Omnicell/MTS and switched (excluding those who ceased to exist) were then sourcing exclusively from SurgiChem the following year.

<sup>3</sup> Binley's (Wilmington Healthcare Limited) data.

<sup>4</sup> See, for example, Boots' comment in the hearing on 15 April 2014, stating that 470 of its 2,800 stores used adherence packaging (although not all of the stores had pharmacies). See p.4-5 of the transcript. Further, smaller pharmacies in particular may be purchasing through wholesalers, distributors and buying groups. In this case they may not appear as customers in the parties' data on direct sales even though they purchase the parties' adherence packaging products and the assumption that they purchase some other suppliers' adherence packaging would not be accurate.

estimated in the analysis, and second, the estimated diversion ratios between Omnicell/MTS and SurgiChem may be understated.<sup>5</sup>

### ***Omnicell's analysis of customer wins and losses***

17. Omnicell/MTS submitted an analysis of monthly customer switching activity. This analysis tracked the number of new customers, lost customers and reactivated customers in each month. The results of this analysis show that on average around [X]% of the live customer base is lost each month, and the monthly gain of new customers constitutes around [X]% of the existing customer base. [X] of customers are also reactivated each month.
18. We aggregated the number of lost customers in the year and deducted the number of reactivations to approximately calculate the number of customers that were lost over the year. We found that around [X]% of the live customers at the start of the year were lost during the year. [X]
19. Omnicell/MTS also provided a summary of customers it had lost over the six months up to and including November 2013.<sup>6</sup> This identified [X] customers, with total sales amounting to [X], which were initially considered 'lost' (defined as inactive for six months), [X] ([X]%) of these were thought to be 'not lost/low user'. [X] customers ([X]%) were thought to be lost to a competitor, with the remaining [X]% lost due to bad credit, were closed accounts, or otherwise unknown. Out of those [X] customers that did switch, [X]. This would suggest a diversion ratio from Omnicell/MTS to SurgiChem of [X]%

### **CMA analysis of the parties' sales data**

20. We analysed Omnicell/MTS's and SurgiChem's sales data with the objective of getting an insight into the nature of the parties' customer base, customer overlap between the parties, and rates of churn and switching.

### ***Parties' customer bases***

21. We considered the characteristics of the parties' customer bases. As shown below, [X] of adherence packaging are to the domiciliary patient segment (ie multidose). We observe that, while there is some overlap in Omnicell/MTS's and SurgiChem's largest customers, Omnicell/MTS's customer base is more concentrated and most sales are to large pharmacy chains and buying

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<sup>5</sup> This is because the diversion ratios are calculated as the number of customers who switched to the other merging party, divided by the total number of customers who switched. Assuming that the numerator in this ratio is estimated correctly, a lower number in the denominator would increase the ratio.

<sup>6</sup> [Omnicell/MTS initial submission](#), Appendix 10.

groups, whereas SurgiChem’s customer base is more dispersed with many smaller customers. [X]

### Care home vs domiciliary segments

22. Both parties sell multidose adherence packaging, primarily used by domiciliary patients, and single-dose adherence packaging, primarily used in care homes, and related ancillaries and support products, such as labels, rollers, templates, replacement seals, dividers, hangers and binders etc. Table 1 below shows the split between multidose and single-dose adherence packaging sales for Omnicell/MTS and SurgiChem. It indicates that around [X]% of Omnicell’s sales of adherence packaging are multidose, ie for the domiciliary end-user segment. Around [X]% of SurgiChem’s sales of adherence packaging are multidose, ie for the domiciliary end-user segment. Thus, [X] of the [X] sales of adherence packaging are to the domiciliary patient segment of the market.

TABLE 1 Omnicell/MTS and SurgiChem sales of adherence packaging by end-user, 2013

Company	£			% multidose*
	Multidose	Single-dose	Other	
Omnicell/MTS	[X]	[X]	[X]	[X]
SurgiChem	[X]	[X]	[X]	[X]*

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

\*The proportion of Omnicell/MTS’s multidose is [X]% if sales in the ‘Other’ category are allocated to single-dose and multidose in proportion to their sales. The proportion of SurgiChem’s multidose is [X]% if sales in the ‘Other’ category are allocated to single-dose and multidose in proportion to their sales.

Note: Multidose includes multidose cards and blisters, single-dose includes single-dose cards and blisters, and ‘other’ include adherence support products such as labels, rollers, templates, dividers, hangers, binders. SurgiChem’s multidose includes its MDS system (ie the system using a reusable cassette with a disposable plastic blister insert).

### Omnicell/MTS customers

23. Omnicell/MTS submitted that it segmented the customers for its internal and sales/marketing purposes as follows:
- (a) Large chains with over 100 pharmacies – these (plus buying groups) accounted for [X]% of Omnicell/MTS’s sales of adherence packaging in 2013. The UK Sales and Marketing director and Key Accounts manager are responsible for managing the sales and the relationship with these customers.
  - (b) Multiple pharmacies with more than five but fewer than 100 pharmacies – these accounted for [X]% of Omnicell/MTS’s sales of adherence packaging in 2013. A dedicated National Accounts Manager along with the UK Sales and Marketing director are responsible for managing and growing existing accounts.

- (c) Independent pharmacies with fewer than five pharmacies – these accounted for [X]% of Omnicell/MTS’s sales of adherence packaging in 2013. Omnicell/MTS uses a telesales and customer services team to market and manage sales to these customers.
- (d) Buying groups – Omnicell/MTS presently worked with [X], and these had a combined membership of nearly [X] pharmacies (sales to buying groups are included in the [X]% figure referred to in (a) above).

24. Table 2 below shows sales of adherence packaging (packaging and ancillaries) by type of customer in Omnicell/MTS’s sales database.

TABLE 2 Omnicell/MTS’s sales of adherence packaging by customer type, 2013

Customer type	Adherence packaging sales £	Proportion %
Key accounts*	[X]	[X]
Multiple pharmacies	[X]	[X]
Independent pharmacies	[X]	[X]
<b>Total adherence packaging</b>	[X]	100

Source: CMA analysis of Omnicell/MTS data.

\*[X]

Note: Adherence packaging sales include single-dose and multidose adherence packs, and ancillaries, such as accessories for care homes (dividers, binders, etc), labels, etc.

- 25. Omnicell/MTS had [X] customers in 2013, [X] of which spent more than £100 on adherence packaging and ancillaries. The distribution of Omnicell/MTS’s sales is strongly skewed towards large customers – the top 10 customers accounted for [X]% of sales, the top 20 accounted for [X]% and the top 100 customers accounted for [X]%. While the average purchase value across all customers was £[X] in 2013, only [X]% of Omnicell/MTS’s customers spent more than £[X] on adherence packaging and ancillary products.
- 26. Table 3 below shows Omnicell/MTS’s top 20 largest customers for adherence packaging in terms of sales revenues in 2013. Omnicell/MTS’s largest three customers of adherence packaging are [X], and they accounted for [X]% of total adherence packaging sales. These top three customers tendered for their requirements of adherence packaging. [X] purchased only multidose packaging from Omnicell/MTS. Other large customers include large pharmacy chains [X], and large buying groups such as [X].





## Analysis of customer overlaps

31. We considered the extent to which Omnicell/MTS and SurgiChem served the same customers based on the matched sales databases. We considered sales of adherence packaging only, and we looked at purchases of single-dose and multidose packaging separately.<sup>7</sup> The results are presented in Tables 5 and 6 below.
32. In summary, we observe that, in the period from 2011 to 2013, [X] out of the total of [X] Omnicell's and SurgiChem's customers of multidose adherence packaging purchased from both parties at one point or another. These customers represented around [X]% of Omnicell's total sales in the period, and around [X]% of SurgiChem's total sales in the period. For single-dose adherence packaging, [X] out of [X] customers overlapped in the period, and this represented around [X]% of Omnicell's and around [X]% of SurgiChem's total single-dose sales in the period.
33. [X]
34. We note that this analysis is particularly sensitive to the precision of the matching of Omnicell/MTS's and SurgiChem's customer lists. While we were able to match a large number of customers, particularly large customers, it is likely that some overlapping customers remained unidentified because they are named differently in the parties' databases. As a result, the customer overlap figures are likely to be understated.

TABLE 5 Omnicell and SurgiChem customer overlap – multidose adherence packaging customers

Customer overlap	2011		2012		2013		2011–13	
	No of customers	Sales £'000						
Omnicell only	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
SurgiChem only	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Both	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total*	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total Omnicell	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total SurgiChem	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

\*Total does not double-count the number of customers, but it combines the sales.

Note: Numbers may not sum due to rounding.

<sup>7</sup> The split between single-dose and multidose customers in our analysis was done at the transaction level. That is, we separated the transactions for multidose and single dose before counting customers and aggregating their sales values. As a result, a customer that purchases both multidose and single-dose adherence packaging will be counted once in in each part of the analysis. This means that the sum of the number of single-dose customers and multidose customers is larger than the total number of unique adherence packaging customers. The value of sales, however, is not affected by this split.

TABLE 6 Omnicell and SurgiChem customer overlap – single-dose adherence packaging customers

Customer overlap	2011		2012		2013		2011–13	
	No of customers	Sales £'000						
Omnicell only	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
SurgiChem only	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Both	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total*	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total Omnicell	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total SurgiChem	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

\*Total does not double-count the number of customers, but it combines the sales.

Note: Numbers may not sum due to rounding.

## Switching and churn

35. We analysed switching rates between Omnicell/MTS and SurgiChem in two ways:
- First, we considered switching behaviour over the three-year period and classified customers based on who they purchased adherence packaging from in this period.
  - Second, we calculated churn (the number of customers lost) and the diversion ratio to the other merging party for the years 2012 and 2013 separately for Omnicell/MTS and SurgiChem.
36. We repeated the analyses above using the value of sales of the customers rather than the number of customers.
37. Results of the first exercise are presented in Table 7 and Figure 1 below. For this piece of analysis, we disregarded customers that only purchased adherence packaging in one of the three years. The results show that:
- Around [X]% of adherence packaging customers stayed with the same provider over the three-year period. This includes customers that might not have purchased from either of the parties in one of the three years, but excludes customers that only purchased adherence packaging in one year.
  - Less than [X]% of these customers switched from being an exclusive customer of one party to being an exclusive customer of the other party.
  - Around [X]% of the customers consistently multi-sourced from both parties over the three-year period.
38. Comparing results for numbers of customers and sales value of these customers (see graphical illustration in Figure 1), it appears that customers

that source from both parties tend to be larger. That is, the relative number of customers that multisource is significantly lower than the relative value of their sales.

39. We note that the above results may be understating the actual numbers of switching customers (and overstating the number of customers that did not switch) as it is likely that we did not match all Omnicell/MTS's and SurgiChem's customers successfully, as explained above.

TABLE 7 Omnicell/MTS and SurgiChem customer types by their sources of supply of adherence packaging between 2011 and 2013

Customer type	2011–2013				2011–2013			
	Multidose customers		Single-dose customers		Multidose customers		Single-dose customers	
	Number	Share %	Number	Share %	Value, £'000	Share %	Value £'000	Share %
Switched between the merging parties	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Switched between multisourcing and sourcing from one	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Sourced from both parties	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Never switched between the two parties	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]
Total	[X]	[X]	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

FIGURE 1

### Types of Omnicell/MTS and SurgiChem customers in 2011 to 2013

[X]

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

40. Next, we estimated churn and diversion between Omnicell/MTS and SurgiChem for each of the years 2012 and 2013. We define churn as the percentage of the customer base that is active in the previous year and then becomes inactive the following year. The active customer base includes customers that are purchasing from only one or from both suppliers. We define diversion from Omnicell/MTS to SurgiChem (SurgiChem to Omnicell/MTS) as lost customers that went to purchase exclusively from SurgiChem (Omnicell/MTS) as a percentage of Omnicell/MTS's (SurgiChem's) total customer losses in the year.
41. The results of this analysis are presented in Tables 8 and 9 below. These results suggest that around [X]% of Omnicell/MTS's customers leave (depending on the year and on type of product, ie multidose or single dose), which includes those who switch to other providers and those who stop purchasing adherence packaging. Results presented in the table suggest that around [X]% of SurgiChem's customers leave each year (depending on the year and on type of product, ie multidose or single-dose), which includes

those who switch to other providers and those who stop purchasing adherence packaging. Around [REDACTED]% of Omnicell/MTS’s lost customers divert to SurgiChem, and around [REDACTED]% of SurgiChem’s lost customers divert to Omnicell/MTS. These relatively large ranges of estimates are a result of variation in churn rates and in diversion figures from year to year.

42. Comparing the churn and diversion figures calculated based on the value of sales, it appears that the value of churn is significantly lower than the volume of churn, and the value of diversion to the other merging party is slightly lower than the volume of this diversion in most years. This may suggest that much of the churn comes from smaller customers (that is, smaller customers switch more than large customers), and that it is the relatively larger customers that switch to the other merging party.
43. We note four issues that may affect these results. First, the diversion ratios may be understated because of errors in matching customer names across the two databases. Second, churn may be overstated because there may be inconsistencies in name recording within the same company’s database (that is, a customer may be identified as lost if its name in the database was changed); this would also have the effect of further understating diversion ratios. Third, in this analysis a customer is identified to have switched only if they move all of their purchases from one party to another, which means that the switching numbers do not reflect large customers switching a certain share of their purchases. This would also understate switching and diversion ratios. Finally, the diversion ratio is based on a small number of customers in a number of instances. Therefore the results of this analysis should be interpreted with care, and limited reliance could be put on exact numbers from the analysis.

TABLE 8 Omnicell/MTS’s churn and diversion to SurgiChem

	<i>Multidose customers</i>		<i>Single-dose customers</i>	
	<i>2011/12</i>	<i>2012/13</i>	<i>2011/12</i>	<i>2012/13</i>
Active base	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diverted to SurgiChem	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diverted elsewhere/exited	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diversion ratio to SurgiChem (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Churn (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diversion ratio to SurgiChem by value of diverted sales (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Churn by value of lost sales (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

TABLE 9 SurgiChem's churn and diversion to Omnicell/MTS

	<i>Multidose customers</i>		<i>Single-dose customers</i>	
	2011/12	2012/13	2011/12	2012/13
Active base	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diverted to Omnicell/MTS	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diverted elsewhere/exited	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diversion ratio to Omnicell/MTS (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Churn (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Diversion ratio to Omnicell/MTS by value of diverted sales (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Churn by value of lost sales (%)	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: CMA analysis of Omnicell/MTS and SurgiChem data.

44. Overall, we find that customer churn and diversion to the other merging party are of approximately similar levels to those submitted by the parties and the PWC analysis – with the caveat that all of these analyses are affected by a number of issues which make reliance on exact numbers difficult. Our analysis of the sales value attributed to those customers indicates that both churn and diversion may be more frequent among smaller customers.

### **Analysis of a price increase event**

45. In October 2012, following a significant increase in the price of the raw material for the plastic, SurgiChem raised the list price of its key multidose adherence packaging product Nomad Clear by around [REDACTED]% (from [REDACTED] to [REDACTED] pence per unit). At the same time SurgiChem introduced the new 'Nomad Clear 2' product, which used less of the raw material and was therefore cheaper to produce. This product was of a reduced (but still acceptable) quality as it did not have a plastic lid, but it had a similar list price to that of Nomad Clear prior to the price rise of [REDACTED] pence per unit.
46. We examined what happened with the actual prices paid by customers for Nomad Clear – ie did they increase, by how much, and whether prices increased for all customers. We also examined the responses of SurgiChem's customers to this event in order to understand whether customers were sensitive to the change in price. We looked at the volumes of sales of these products before and after the price rise at the aggregate level as well as for a number of the largest customers. We also looked for evidence of customers switching to the new, cheaper products.
47. Figure 2 below illustrates the price rise and introduction of the new product. The dark blue line reflects the average price per pack of Nomad Clear, and the price rise in October is visible. The light blue line shows the introduction of the New Nomad Clear 2 at a price that is slightly lower than the old Nomad Clear price. In addition, the graph shows the Nomad Clear [REDACTED] price which appears to have [REDACTED]), and the Nomad Clear [REDACTED] price which was [REDACTED] than

the standard Nomad Clear's price but was raised similarly.<sup>8</sup> We observed that the average Nomad Clear price [X] by [X]% between Q3 and Q4 of 2012; the average price then [X] over the next quarter, such that overall increase in average price was [X]% between Q3 of 2012 and Q3 of 2013.

## FIGURE 2

### Prices of Nomad Clear

[X]

Source: CMA analysis of SurgiChem data.

48. Figure 3 illustrates the volumes purchased of Nomad Clear and Nomad Clear 2. The figure shows that the monthly volume of Nomad Clear decreased immediately after October 2012, but increased again in later months. The volume of the new product, however, appears to be [X] in the months following its introduction.
49. We also note the reaction of [X] to the price rise. [X]

## FIGURE 3

### Quantities sold of Nomad Clear

[X]

Source: CMA analysis of SurgiChem data.

50. We analysed volumes of Nomad Clear over a longer period in order to understand whether customers switched away or reduced their purchases of Nomad Clear in response to the price increase. Figure 4 shows Nomad Clear volumes and average price from 2011 to 2013, with volumes added and weighted average prices calculated on quarterly basis. We observe that [X].

## FIGURE 4

### Nomad Clear volumes and prices, 2011 to 2013

[X]

Source: CMA analysis of SurgiChem data.

51. When we compared Nomad Clear sales volume with Nomad Clear [X] sales volume ([X]), we observe that, between 2011 and 2012 (ie before the price increase), Nomad Clear and [X] volumes grew at a similar rate of [X]% a year. However, between 2012 and 2013 (ie after the price increase), [X]

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<sup>8</sup> All prices displayed here take account of discounts that were applied to the list price.

volumes grew by [X]%, whereas Nomad Clear largely stagnated with growth of just [X]% between 2012 and 2013. Thus, it appears that [X]. While there could be a number of reasons for this difference in volume growth, customers switching to the cheaper product or to other suppliers in response to the price increase could be a plausible explanation.

52. We next identified the ten largest purchasers of Nomad Clear. These were defined using the total number of packs purchased over the six months prior to October 2012. We examined the response of these customers to the price rise and noted that only [X] of these ten customers purchased some of the New Nomad Clear 2, however, even these [X] did not switch completely to the new product as they then continued purchasing Nomad Clear. Some other large customers of Nomad Clear appeared to stock the old product similarly to [X] above, and continued to purchase it at a higher price afterward.
53. Of the [X] large customers that bought the new Nomad Clear 2, only [X] purchased a significant amount of packs of the new product, and it switched back to Nomad Clear after a few months (see Figure 5). The price of Nomad Clear was raised to [X] in line with the average price rise. We take this to suggest that the price difference was not significant enough for the customer to accept the lower quality or other aspects of the new product.

FIGURE 5

### Purchases of Nomad Clear and Nomad Clear 2 of a single large customer

[X]

Source: CMA analysis of SurgiChem data.

54. We looked at what happened at individual customer level when the price of Nomad Clear was increased and the cheap Nomad Clear 2 introduced. The results of this analysis is summarised in Table 10 below. [X] SurgiChem customers purchased Nomad Clear in the year preceding the price increase,<sup>9</sup> [X] had continued to purchase in the year following the price increase, with [X]% of these paying a higher price (with [X]% of volume being now at a higher price). [X]% of customers had reduced their volume of purchases by more than [X]%, but [X]% did not reduce or increase purchases of Clear in the year following the increase. We observe that the total volume reduction by those customers who reduced their purchases of Clear in the year after the price increase relative to the year before amounted to around [X] units (this represents around [X]% of volume relative to the total volumes purchased in the year before the price increase), plus [X] customers worth [X] units were

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<sup>9</sup> This excludes [X].

'lost' in that they did not purchase any Clear in the year following the price increase. Overall, however, the [X] in Clear sales volumes in the year following the increase was [X] units (this does not take account of new customers of Clear in the year following the price increase). We note that the reasons for customers 'lost' or volume reductions in the year following the price increase relative to before could be the price increase, but it also could be other reasons, including normal churn, customers ceasing to purchase adherence packaging, or customers reducing or shifting volumes for reasons other than the price increase.

TABLE 10 SurgiChem's customer reaction to price increase of Nomad Clear

	No of customers	Units
<i>Comparison of 1 year before and 1 year after the price increase</i>		
Purchases of Clear 'before'	[X]	[X]
Purchases of Clear 'after'	[X]	[X]
% 'after' relative to 'before'	[X]	[X]
Customers paying higher price 'after'	[X]	[X]
% paying higher price relative to all purchasing 'after'	[X]	[X]
[X]		
Customers not changing or increasing volume	[X]	[X]
Customers reducing by 0–10%	[X]	[X]
Customers reducing by 10–20%	[X]	[X]
Customers reducing by 20–50%	[X]	[X]
Customers reducing by over 50%	[X]	[X]
Customers 'lost'	[X]	[X]
<i>Purchases of Clear 2</i>		
Customers purchasing some/all Clear 2	[X]	[X]
% relative to total Clear 'after'	[X]	[X]

Source: CMA analysis of SurgiChem data.

55. As Table 10 shows, [X] of customers who purchased Clear in the year before the price increase now purchased also some (or all) Clear 2. When we look at Clear and Clear 2 purchases on annual basis (not shown in the table), we observe that, of the customers who purchased Clear in 2012 [X] had fully switched to Clear 2 in 2013, switching around [X]% of volumes of Clear. [X] of customers were lost, but these accounted for only [X]% of sales volumes (indicating that 'lost' customers were relatively small). The [X] Clear customers 'lost' in 2013 relative to 2012 could include customers who switched as a result of the price increase or customers who were 'lost' for other reasons, such as normal churn or customers ceasing to purchase adherence packaging.

## Further analysis of survey data

### Introduction

1. The survey report compiled by GfK NOP<sup>1</sup> contains details of the results of the survey it conducted of customers of Omnicell/MTS and SurgiChem (who purchased adherence packaging from them in 2013) including the objectives, scope and sample sizes (see paragraphs 22 to 27 of the GfK survey report for further details on the objectives and methodology of the customer survey).<sup>2</sup> This appendix sets out further results from the customer survey analysis on diversion and alternative suppliers relevant for assessing the competitive effects on the merger. References to the relevant questions on the survey questionnaire are noted in brackets/parenthesis.

### Alternatives and diversion

2. A number of questions in the customer survey asked about supplier awareness, alternative suppliers, switching suppliers and diversion. We describe the key results in relation to these questions below.

### *Diversion (F3/F6)*

3. The survey asked customers to indicate which other supplier(s) they would switch to if there was a hypothetical 5% price increase or, for those who would not change the supplier in response to a price increase, which other supplier(s) they would switch to if their supplier was to shut down and was no longer available.<sup>3</sup> The results presented here are based on unweighted data, and hence represent customers rather than the value or volume of sales. Therefore a small customer is given equal weighting to a large customer. The weighted diversion results can be found in the survey presentation by GfK for this particular question.

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<sup>1</sup> [https://assets.digital.cabinet-office.gov.uk/media/538c89ceed915d192f000005/GfK\\_report.pdf](https://assets.digital.cabinet-office.gov.uk/media/538c89ceed915d192f000005/GfK_report.pdf).

<sup>2</sup> Notably, the customers who tender, and those largest customers with which we engaged via other means, were excluded, so the customer survey may be considered to have targeted the parties' small and medium-sized customers.

<sup>3</sup> The survey contained two questions on diversion. The first asked customers what they would do if prices with their current supplier were to rise by 5% on a non-negotiable basis, following up with if they would switch some of their purchases to another supplier, what proportion, and which supplier (F2 and F3). The second asked what they would do if their current supplier closed down, and if they would switch, who this would be to. If a customer noted that they would switch 100% of their spend to an alternative supplier in the face of a 5% price rise, it was assumed they would also switch all their spend to this supplier if their current supplier closed down (and hence were not asked the second question).

4. We noted that around two-thirds were not able actually to identify a supplier that they would consider diverting to (66% of Omnicell/MTS and 65% of SurgiChem customers). The characteristics of these 'Don't know' respondents are described in paragraph 9 below.
5. The overall diversion responses based on the hypothetical closure of their supplier or a price increase are indicated in Table 1 below. The GfK survey report contains the weighted version of this data (Figures 21 and 22 of the report), showing price diversion and forced diversion separately. Customers were able to specify more than one diversion destination and were then asked to allocate to each named supplier the percentage of the spend they would divert to that supplier; the figures in the table below reflect this distribution across suppliers.

TABLE 1 Responses to diversion questions

Supplier mentioned	Omnicell/MTS		SurgiChem	
	Count	%	Count	%
Stop buying	0	0	1	<1
Divert to different brand of same party	0	0	5	2
Divert to merger party	16	11	30	11
Divert to other named supplier	33	23	60	22
Divert but not sure where	94	66	179	65
Total (base)	143		275	

Source: Customer survey.

Base: All customers excluding those who didn't know what they would do if supplier closed

Note: From question F3/F4 for those switching 100% of spend at F1/2 plus from F6 for those switching at F5. These numbers are based on unweighted data.

6. When customers were asked which supplier they would switch to if their current supplier closed down or in response to a price increase, a number of different companies were mentioned. Table 2 lists all the suppliers mentioned, some of which got very few mentions. While the merger parties were mentioned and some larger competitors, there was also a long tail of smaller competitors. This did, however, include distributors/wholesalers and buying groups, as well as a couple of mentions where it was unclear which supplier the respondent was referring to. The table lists the number of mentions by each party, the supplier mentioned and the type of supplier along with any further information on the supplier; the numbers are not identical to those under Table 1 above, as each customer could mention more than one alternative supplier and it is the number of mentions that are recorded.

TABLE 2 Responses to diversion questions F3/F6. Which producers would you consider using instead?

<i>Supplier mentioned</i>	<i>MTS</i>	<i>SurgiChem</i>	<i>Total</i>	<i>Type of supplier</i>	<i>Further information</i>
Venalink	24	27	51	Competitor	
MTS/ Omnicell	0	30	30	Merging party	
SurgiChem	18	5	23	Merging party	
Shantys/Pillmate	3	12	15	Competitor	
Boots/Manrex	2	7	9	Competitor	
Sigma	1	5	6	Distributor/wholesaler	[X]
EMT	0	6	6	Distributor/wholesaler	[X]
Biodose	4	1	5	Competitor	
Numark	0	2	2	Buying group	[X]
Medipac	0	2	2	Uncertain	[X]
Valley Northern	1	1	2	Competitor	[X]
Medimax	0	1	1	Competitor	[X]
MDS	1	0	1	Uncertain	[X]
Medidose	0	1	1	Competitor	[X]
Phoenix	0	1	1	Distributor/wholesaler	[X]
None specifically	14	23	37		
Don't know	83	160	243		
Other	2	8	10		
Not stated	3	2	5		
Total (base)	143	274	417		

Source: Customer survey.

Base: All customers excluding those who didn't know what they would do if supplier closed

Note: From question F3 for those switching 100% of spend at F1/2 plus from F6 for those switching at F5. These numbers are based on unweighted data.

7. Below is a description of responses by those customers who mentioned a supplier they would consider diverting to in response to a hypothetical price increase or in the hypothetical case that their current supplier shut down. The figures reported below are not diversion ratios, but merely the proportion of customers responding with a given response. Each customer was encouraged to specify more than one producer if appropriate:

(a) Of the 143 Omnicell/MTS customers, 18 (13%) mentioned SurgiChem, 24 (17%) Venalink and 4 (3%) Biodose/Protomed as producers to which they would consider diverting:

(i) We examined responses given to some other questions by those 18 Omnicell/MTS customers who said that they would consider diverting to SurgiChem. Three of them currently use SurgiChem, and four currently use some other supplier (D1). Four of them have used SurgiChem in the last three years, and one had used some other supplier (D4).

(ii) We also examined responses given to these other questions by those 24 Omnicell/MTS customers who said that they would consider diverting to Venalink. Seven (nearly a third) of them currently use Venalink, and four of those currently use some other supplier as well, three of which specified SurgiChem (D1). A further seven have used Venalink in the last three years, and four have used some other

supplier, of which two used SurgiChem (one of these two used Venalink as well) (D4).

- (b) Of the 274 SurgiChem customers, 30 (11%) mentioned Omnicell/MTS, 27 (10%) Venalink, 12 (4%) Pillmate/Shantys and 5 (2%) Sigma as producers to which they would consider diverting:
- (i) We examined responses given to some other questions by those 30 SurgiChem customers who said that they would consider diverting to Omnicell/MTS. Twelve of them said they currently used Omnicell/MTS, and 27 of them mentioned currently using some other supplier (of which five had also mentioned Omnicell/MTS) (D1). Five of them have used Omnicell/MTS in the last three years, and six have used some other supplier (of which two had also mentioned Omnicell/MTS) (D4).
  - (ii) We also examined responses given to these other questions by those 27 SurgiChem customers who said that they would consider diverting to Venalink. Seven of them said they currently used Venalink, and nine currently used some other supplier (of which five mentioned Omnicell/MTS) (D1). Six of them have used Venalink in the last three years, and six mentioned another supplier (of which four mentions were for Omnicell/MTS) (D4).
8. In summary, although there is no clear pattern in which supplier customers would divert to depending on whether they currently multisourced or had switched recently, a significant minority (generally around one-third) of the customers mentioning that they would divert to a competitor (be that the other merging party or Venalink) also bought from that supplier already. Broadly a similar proportion of customers who mentioned diverting to Venalink or the other merging party were also currently purchasing from some other supplier. A slightly smaller proportion of customers saying that they would divert to the merging party or Venalink had switched in the last three years. There are, however, also customers not currently using the party they said they would divert to, and who had not switched from them in the last three years.
9. We explored further those customers who would divert spend but could not name a supplier they would consider diverting to in response to questions F3 and F6 (94 (66%) of Omnicell/MTS customers and 179 (65%) of SurgiChem customers). We considered the responses of these “Don’t know” customers’ to various other questions:
- (a) *Multisourcing*: The majority of each party’s customers only buy from that party (about 70%) and nearly three-quarters of these did not know to

which supplier they would divert for both Omnicell/MTS and SurgiChem. Those who already buy from either the other merger party or a third party, while fewer in number, generally had less 'Don't know' diversion responses, as might be expected: for Omnicell/MTS customers, 7 of the 13 customers buying from the merger party said 'Don't know' and 9 of the 21 customers buying from other suppliers said 'Don't know'; for SurgiChem, the corresponding figures were 9 out of 25 and 29 out of 55. (D1)

- (b) *Whether they have switched in the last three years:* Around 80% of each party's customers had not switched in the last three years, so the numbers switching are low and results based on these should be treated as indicative only. For Omnicell/MTS customers, 72% of the 109 who had not switched did not know to which suppliers they would divert, compared with only 46% of the 28 who had; for SurgiChem customers the corresponding figures were 68% (of 227) and only 39% (of 36). (D4)
- (c) *Whether they are reimbursed by NHS Scotland (in full or in part):* Numbers reimbursed are very low (only about 10% of customers overall), and no clear pattern emerges in relation to whether those reimbursed are more or less likely to respond 'Don't know' when asked to which suppliers they would divert spend. Nine of the 12 Omnicell/MTS customers who were reimbursed responded 'Don't know' while 15 of the 25 SurgiChem customers responded 'Don't know', which could possibly reflect that fact that NHS Scotland only reimburses those customers purchasing card-based products from either Omnicell/MTS or Venalink. (C10)
- (d) *Perceived ease of switching:* As most customers consider switching is 'easy' or 'very easy' (83% of Omnicell/MTS and 68% of SurgiChem customers), there are few customers on which to base the likely diversion behaviour of those who consider switching 'difficult' or 'very difficult'. Of possible note is that six of the seven Omnicell/MTS customers who considered switching difficult said that they did not know to which supplier they would divert, compared with two-thirds of the 119 who thought it was easy to switch. For SurgiChem customers, a similar proportion did not know where they would divert (two-thirds) irrespective of views on ease of switching. (G1)
- (e) *Whether customers buy directly from their supplier(s):* Generally, customers gave a higher proportion of 'Don't know' responses to where they would divert spend if they bought at least some of their adherence packaging direct from suppliers: for Omnicell/MTS this was 71% compared with 59% for those who do not buy direct and for SurgiChem this was 68% compared with 57% for those who do not buy direct. We noted,

however, that numbers not buying direct are low (29 for Omnicell/MTS and 42 for SurgiChem), so these percentages should be treated as indicative only. (C4)

(f) *Whether customers purchase from wholesalers:* Relatively few customers buy through wholesalers (about 17%, similar for both Omnicell/MTS and SurgiChem customers) and no clear patterns emerge in relation to any relationship between this factor and the extent of 'Don't know' responses to where customers would divert spend. (C1)

10. Overall, there is some indication that customers who are more familiar with alternative suppliers were more likely to be able to mention a specific supplier they would divert to. Those who had also sourced products from either the other merging party or a third party (currently or had switched) were more likely to name a specific supplier.
11. We looked further into the stated diversion behaviour (in terms of diversion to the merger party or diversion to a third party, in response to a hypothetical 5% price increase in, or closure of, customers' suppliers) according to whether the customers multisourced or not and whether they had switched supplier in the last three years. Numbers of customers by party, when broken down by both multisourcing behaviour or switching behaviour and by diversion responses, were too low to attach weight to any observed differences between those who did/did not multisource or had/had not switched. For Omnicell/MTS and SurgiChem customers combined, a higher proportion said that they would divert to the merging party among those who multisourced (17 out of 38 customers) than those who did not (35 out of 372) and among those who had switched (14 out of 64) compared with those who had not (38 out of 336). There was not much difference in extent of diversion to other suppliers between those multisourcing and not, but a higher proportion of those who had switched said that they would divert to other suppliers (28 out of 64) compared with those who had not (7 out of 336).

#### ***Use of other suppliers in negotiating discounts (C8/C9)***

12. The survey also asked those customers who bought products directly from a producer and obtained some kind of discount/promotion whether they used other suppliers' prices to negotiate prices (C8), and, if so, which suppliers (C9). This subsample is very small, and hence the results cannot be assigned much weight:
  - (a) Of the 43 Omnicell/MTS customers, 21 (49%) said they used other producers' prices, and 7 of these (33%) said they used SurgiChem to get

the discount (the next most frequent mention was Venalink – five customers (24%)).

(b) Of the 77 SurgiChem customers, 28 (36%) said they used other producers' prices, and seven of these (25%) said they used Omnicell/MTS to get the discount (except 'other', the next most frequent mention was Venalink – three customers (11%)).

13. We noted that, of the 49 Omnicell/MTS and SurgiChem customers who said that they used other producers' prices in negotiating a discount, 22 currently multisourced (D1), and five had switched suppliers in the last three years (D4).

### ***Other suppliers considered (D2)***

14. Customers were asked 'Apart from those you use, which other producers would you consider using?' Customers could name as many suppliers as they wished. A high proportion of customers did not name any other suppliers (57% overall, broadly similar for customers of Omnicell/MTS and SurgiChem):

(a) Of the 145 Omnicell/MTS customers, 29 said they would consider using SurgiChem, 27 Venalink, 9 Protomed/Biodose and 7 Shantys/Pillmate. But 37% of those customers said they would not consider any specific supplier, and 19% said they did not know which supplier they would consider.

(b) Of the 278 SurgiChem customers, 38 customers said they would consider using Omnicell/MTS, 30 Venalink, 15 Shantys/Pillmate, 11 Protomed/Biodose and 7 Manrex. But 42% of those customers said they would not consider any specific supplier, and 17% said they did not know which supplier they would consider.

## Costs and margins

### Introduction

1. This appendix contains the results of our analysis of cost of sales and variable gross margins for adherence packaging and ancillary products. We examined Omnicell/MTS's and SurgiChem's variable margins for adherence packaging in order to understand whether they were high or low and thus whether unilateral effects were likely in this market. We also looked at how costs and margins have evolved over the period from 2011 to 2013.
2. Variable margins percentages are measured as sales value less cost of goods sold, divided by sales value.<sup>1</sup> Importantly, this does not include other relevant costs which may be variable, such as distribution, administrative and sales force costs,<sup>2</sup> and thus may overstate the variable margin; however, we understand that distribution and administrative overheads are relatively small if compared with the cost of goods sold.<sup>3</sup> Average margins are value-weighted averages. To the extent that distribution and some overheads may differ across different customers, it may be difficult to compare variable margins across customers, therefore we do not undertake such analysis.

### Margins by product

3. Table 1 below shows Omnicell/MTS's and SurgiChem's average variable margins in 2013 by type of product – multidose adherence packaging, single-dose adherence packaging, and ancillaries, such as labels, replacement seals, rollers, template, dividers, hangers, binders (included under 'Other' category). It also shows overall margins for adherence packaging. Multidose packaging represents [X] Omnicell/MTS's and SurgiChem's sales of adherence packaging by value, therefore the margin on multidose adherence packaging has a [X] weight in the overall average margin for adherence packaging.

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<sup>1</sup> For Omnicell/MTS, we used their sales database, submitted to the CMA on 26 March 2014. For SurgiChem, we used its data on sales by customer, submitted to the CMA on 24 April 2014. The analysis excludes all sales transactions with zero or negative sales value.

<sup>2</sup> Omnicell/MTS noted that it was possible that some volume-related sales commission and bonuses were also not included as cost in the calculations, which would have the effect of overstating our calculated gross margin figures at least to some extent.

<sup>3</sup> We noted that, for example, for SurgiChem in 2011, cost of sales represented [X]% of the total of cost of sales and operating costs, and that carriage (delivery) costs represented [X]% of the total cost of sales and operating costs.



## **SurgiChem costs and margins by product**

5. Table 3 below shows average variable margins for SurgiChem’s main adherence packaging products in 2013. Sales of these products represented [X]% of total adherence packaging (excluding ancillaries) sales of SurgiChem in 2013. The table also shows the (average) cost of sales for these adherence packaging products.

TABLE 3 SurgiChem’s margins and costs by adherence packaging product, 2013

<i>Adherence packaging product</i>	<i>Average margin %</i>	<i>Cost of sales £ per unit</i>
<i>Multi-dose AP</i>		
Nomad Clear Pack	[X]	[X]
Nomad Clear 2 Pack	[X]	[X]
Nomad Clear XL Pack	[X]	[X]
Nomad Clear Pack Coloured	[X]	[X]
<i>Duo Pack</i>		
MDS tray (250 size)	[X]	[X]
MDS tray (500 size)	[X]	[X]
MDS tray (1000 size)	[X]	[X]
[X]	[X]	[X]
<i>Single-dose AP</i>		
Nomad Concise Pack	[X]	[X]
Total above	[X]	

Source: CMA analysis of SurgiChem data.

Note: Average margin is calculated using weighting by value of sales. This means that large transactions are given more weight than smaller transactions. Cost of sales is average cost of sales for the given product (in some instances there is slight variation in cost of sales across some transactions in the data, therefore we take an average).

## **Costs and margins over time**

6. We carried out further analysis of how cost of sales and variable gross margins for adherence packaging of Omnicell/MTS and SurgiChem have changed in the period from 2011 to 2013. This analysis considers average annual cost of sales and average margins.

### **Omnicell/MTS costs and margins over time**

7. Table 4 below shows Omnicell/MTS’s average cost of sales and average gross variable margin (all are volume-weighted averages) for 2011, 2012 and 2013, for its generic (ie non-branded) adherence packaging products. It shows that the unit cost of the multidose pack had [X] between 2011 and 2013 by [X] pence per unit. Similarly, the cost of card only had [X] by [X] pence per unit. For single-dose, the cost of card had [X] by [X] pence per unit and the cost of blisters had [X] by [X] pence per unit ([X] pence per unit in total for a pack). We observe that these [X] in unit cost, combined with

[X] changes in average prices, had resulted in gross variable margins [X] between 2011 and 2013 by between [X] and [X] percentage points, depending on product.

TABLE 4 Omnicell/MTS's cost of sales and margins by adherence packaging product, 2011 to 2013

Adherence packaging product	Cost of sales pence/unit			Variable gross margin %		
	2011	2012	2013	2011	2012	2013
<i>Multidose AP</i>						
MD Generic pack*	[X]	[X]	[X]	[X]	[X]	[X]
MD Generic card only	[X]	[X]	[X]	[X]	[X]	[X]
<i>Single-dose AP</i>						
SD Generic card only†	[X]	[X]	[X]	[X]	[X]	[X]
SD Blisters small	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of Omnicell/MTS data.

\*MD Generic Pack also includes the generic easyread and flexi packs (both L-to-R and R-to-L).

†SD Generic card only includes the generic flip card.

Note: Average margin is calculated using weighting by value of sales. This means that large transactions are given more weight than smaller transactions. Cost of sales is average cost of sales for the given product (in some instances there is slight variation in cost of sales across some transactions in the data, therefore we take an average).

### **SurgiChem costs and margins over time**

8. Table 5 below shows SurgiChem's average cost of sales and average gross variable margin (all are volume-weighted averages) for 2011, 2012 and 2013, for its generic (ie non-branded) adherence packaging products. It shows that the unit cost for the main multidose pack (Nomad Clear) had [X] between 2011 and 2013 by [X] pence per unit. The cost of Nomad Clear 2, the multidose product introduced to the market in October 2012, had [X], presumably on the account of economies of scale. For other multidose products we observe unit cost moving in different directions – ie there are some increases and some decreases. For single-dose product (Nomad Concise), the cost had [X] pence per unit.
9. In relation to gross variable margins, we observe that, for Nomad Clear, the margin had [X] between 2011 and 2013, despite the [X] – this is likely due to implementing the price increase for Nomad Clear. For the single-dose product, Nomad Concise, average margin had [X], consistent with a [X].

TABLE 5 SurgiChem's cost of sales and margins by adherence packaging product, 2011 to 2013

Adherence packaging product	Cost of sales pence/unit			Variable gross margin %		
	2011	2012	2013	2011	2012	2013
<i>Multidose AP</i>						
Nomad Clear Pack	[X]	[X]	[X]	[X]	[X]	[X]
Nomad Clear 2 Pack	[X]	[X]	[X]	[X]	[X]	[X]
Nomad Clear XL Pack	[X]	[X]	[X]	[X]	[X]	[X]
Nomad Clear Pack Coloured	[X]	[X]	[X]	[X]	[X]	[X]
Duo Pack	[X]	[X]	[X]	[X]	[X]	[X]
MDS tray (250 size)	[X]	[X]	[X]	[X]	[X]	[X]
MDS tray (500 size)	[X]	[X]	[X]	[X]	[X]	[X]
MDS tray (1000 size)	[X]	[X]	[X]	[X]	[X]	[X]
<i>Single-dose AP</i>						
Nomad Concise Pack	[X]	[X]	[X]	[X]	[X]	[X]

Source: CMA analysis of SurgiChem data.

Note: Average margin is calculated using weighting by value of sales. This means that large transactions are given more weight than smaller transactions. Cost of sales is average cost of sales for the given product (in some instances there is slight variation in cost of sales across some transactions in the data, therefore we take an average).

## Market share analysis

### Introduction

1. This appendix details our analysis and reports estimates of market shares for adherence packaging. For completeness it also reports parties' estimates of market shares.

### Our analysis of market shares

#### *Methodology*

2. We undertook calculations of market shares, based on actual sales volume and value data from 2011 to 2013 collected from the main known suppliers of adherence packaging in the UK. We used Omnicell/MTS and SurgiChem's sales data, and we collated sales data from Venalink, Protomed, Shantys, Manrex/Boots, and from the two main suppliers of pouch-based systems – HD Medi and Medication Management Ltd. We calculated both value-based and quantity-based market shares in the care-home and domiciliary segments.
3. We considered whether our data on suppliers of adherence packaging is complete. We are aware of other suppliers in the market, such as MultiMeds, but they are very small so their exclusion should not significantly affect the figures (MultiMeds said that it made sales of adherence packaging worth around £[redacted] per month (£[redacted] per year); this would give it a share of around [0–5]% in terms of value). Customers in the survey also mentioned some other alternatives which we have not come across, such as Medi-Dose (which appears to be a US-based company). Mentions also included reusable suppliers, such as W&W and PivoTell. Thus, it appears that we are capturing nearly all of the relevant market in our analysis.
4. When estimating volume-based market shares, we found that some parties record blisters separately from the card or plastic enveloping the blisters for some of their products in the sales data, which meant we had to consider how to avoid double counting when calculating total volumes of adherence packaging. We also found that it would not be appropriate to include sales of ancillaries (eg labels, seals) when calculating total volumes, since the inclusion of these could heavily distort the figures for total quantities of adherence packs sold. We therefore counted only sales of (a) full blister packs and (b) cards-only in the quantities sold, and excluded volumes of separate blisters (to avoid double counting), seals, labels and other such when calculating sales volumes. However, for Manrex, we estimated the

quantities based on sales of blisters rather than the sales of the plastic 'enveloping' the blister since the plastic envelope is reusable.

5. When estimating value-based market shares, we found that, in the case of Omnicell/MTS and Venalink's data, sales values were shown separately for single-dose and multidose adherence packaging and for ancillaries (rollers, labels, seals, etc). Therefore in our calculations in relation to these suppliers we have assumed that these ancillaries are split between tender, domiciliary non-tender and care-home non-tender in proportions that are equal to the corresponding proportions of the value of packaging sold.
6. Our main calculations consider suppliers of blister pack adherence packaging, and do not include directly HD Medi and Medication Management, the suppliers of pouch-based systems in the UK. We consider these separately. We also do not consider here other types of solutions for adherence, such as reusable packs.
7. In relation to Manrex, Boots self-supplies some Manrex products, but also supplies Manrex to independent pharmacies through wholesaler Bunzl. It said that it did not restrict in any way which pharmacies could purchase Manrex through Bunzl (including no restrictions on competing pharmacies). Therefore, we exclude the self-supplied Manrex from the market share calculations, but include Manrex supplied externally through Bunzl. As noted above, we estimate the quantity of Manrex sold externally based on the number of blisters (rather than the plastic envelope, which is reusable).

### ***Overall market shares***

8. Tables 1 and 2 below present our calculation of market shares for the adherence packaging market as a whole (including the tender and non-tender segment and domiciliary and care-home segments). Table 1 shows market shares based on the volume of packaging sold. Based on volume, Omnicell/MTS had a [40–50]% share of the market in 2013 while SurgiChem had a [30–40]% share. Table 2 shows market shares by sales value instead, which gave market shares of [30–40]% for Omnicell/MTS and [30–40]% for SurgiChem. We primarily relied on volume-based market shares since the value-based ones were distorted by the differences in pricing between suppliers.

TABLE 1 Quantity-based market shares for all adherence packaging

	Sales volumes			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[40–50]	[30–40]	[40–50]
SurgiChem	[X]	[X]	[X]	[30–40]	[30–40]	[30–40]
Venalink	[X]	[X]	[X]	[20–30]	[20–30]	[10–20]
Protomed	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Shantys	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Manrex (Bunzl)	[X]	[X]	[X]	[5–10]	[0–5]	[0–5]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[70–80]	[70–80]	[70–80]

Source: CMA analysis.

TABLE 2 Value-based market shares for all adherence packaging

	Sales values (£)			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[30–40]	[30–40]	[30–40]
SurgiChem	[X]	[X]	[X]	[30–40]	[30–40]	[30–40]
Venalink	[X]	[X]	[X]	[10–20]	[10–20]	[10–20]
Protomed	[X]	[X]	[X]	[5–10]	[5–10]	[5–10]
Shantys	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Manrex (Bunzl)	[X]	[X]	[X]	[0–5]	[5–10]	[5–10]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[70–80]	[60–70]	[60–70]

Source: CMA analysis.

### Market shares for tender sales

9. Table 3 below presents our calculation of market shares in the tender domiciliary segment. SurgiChem’s share in this segment is 0% as it has not supplied through tenders in the period from 2011 to 2013. In 2013, Omnicell/MTS had market share in the domiciliary segment tender sales of [80–90]% by value; however, it had a lower share of [60–70]% in 2012 and [60–70]% in 2011, before it won the Boots tender from Venalink. However, Venalink’s tender volume in 2013 is mostly Boots still (only £[X] is NHS Scotland), since the new tender arrangements did not start until some way into 2013.

TABLE 3 Value-based market shares in the domiciliary segment – tenders

	Sales values (£)			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[60–70]	[60–70]	[80–90]
Venalink	[X]	[X]	[X]	[30–40]	[30–40]	[10–20]
Total	[X]	[X]	[X]			

Source: CMA analysis.

10. In relation to the care home segment for tender sales, [X], since Lloyds is the only one of the three tender customers which tendered for this segment, and [X] has supplied Lloyds for single-dose adherence packaging tendered.

## Market shares for non-tender sales

11. We calculated market shares for all non-tender sales, sales for the non-tender domiciliary segment and sales for the non-tender care-home segments based on the volumes of packaging sold. The results are presented in Tables 4, 5 and 6 below.

TABLE 4 Quantity-based market shares for all adherence packaging – non-tender

	Sales volumes			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[30–40]	[30–40]	[20–30]
SurgiChem	[X]	[X]	[X]	[40–50]	[40–50]	[40–50]
Venalink	[X]	[X]	[X]	[10–20]	[10–20]	[10–20]
Protomed	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Shantys	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Manrex (Bunzl)	[X]	[X]	[X]	[5–10]	[5–10]	[5–10]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[70–80]	[70–80]	[70–80]

Source: CMA analysis.

TABLE 5 Quantity-based market shares in the domiciliary segment – non-tender

	Sales volumes			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[30–40]	[30–40]	[30–40]
SurgiChem	[X]	[X]	[X]	[40–50]	[40–50]	[40–50]
Venalink	[X]	[X]	[X]	[10–20]	[10–20]	[10–20]
Shantys	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[80–90]	[80–90]	[70–80]

Source: CMA analysis.

TABLE 6 Quantity-based market shares in the care-home segment – non-tender

	Sales volumes			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[20–30]	[20–30]	[10–20]
SurgiChem	[X]	[X]	[X]	[50–60]	[40–50]	[40–50]
Venalink	[X]	[X]	[X]	[5–10]	[5–10]	[5–10]
Protomed	[X]	[X]	[X]	[0–5]	[5–10]	[5–10]
Manrex (Bunzl)	[X]	[X]	[X]	[10–20]	[10–20]	[10–20]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[70–80]	[70–80]	[60–70]

Source: CMA analysis.

12. In terms of value of sales, the total market shares for non-tender customers are presented in Table 7 below, calculated based on sales value. Tables 8 and 9 then present the non-tender market shares separately for the non-tender domiciliary and care-home segments respectively. For Protomed, market share in terms of value is higher than market share in terms of volume as its products are significantly more expensive than those of other suppliers.

This pricing difference also affects other suppliers' market shares, biasing them downwards.

TABLE 7 Value-based market shares in adherence packaging – non-tender

	Sales values (£)			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[20–30]	[20–30]	[20–30]
SurgiChem	[X]	[X]	[X]	[40–50]	[40–50]	[40–50]
Venalink	[X]	[X]	[X]	[10–20]	[5–10]	[10–20]
Protomed	[X]	[X]	[X]	[5–10]	[10–20]	[10–20]
Shantys	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Manrex (Bunzl)	[X]	[X]	[X]	[5–10]	[5–10]	[5–10]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[70–80]	[60–70]	[60–70]

Source: CMA analysis.

Note: This does not include Manrex self-supplied to Boots. Protomed's share appears relatively high on value-based terms as its product is significantly more expensive than those of the other suppliers.

TABLE 8 Value-based market shares in the domiciliary segment – non-tender

	Sales values (£)			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[30–40]	[30–40]	[30–40]
SurgiChem	[X]	[X]	[X]	[40–50]	[40–50]	[40–50]
Venalink	[X]	[X]	[X]	[10–20]	[10–20]	[10–20]
Shantys	[X]	[X]	[X]	[0–5]	[0–5]	[0–5]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[80–90]	[80–90]	[80–90]

Source: CMA analysis.

TABLE 9 Value-based market shares in the care-home segment – non-tender

	Sales values (£)			Market shares (%)		
	2011	2012	2013	2011	2012	2013
Omnicell/MTS	[X]	[X]	[X]	[10–20]	[10–20]	[10–20]
SurgiChem	[X]	[X]	[X]	[40–50]	[30–40]	[30–40]
Venalink	[X]	[X]	[X]	[5–10]	[0–5]	[5–10]
Protomed	[X]	[X]	[X]	[10–20]	[20–30]	[30–40]
Manrex (Bunzl)	[X]	[X]	[X]	[10–20]	[20–30]	[10–20]
Total	[X]	[X]	[X]			
<i>The parties combined</i>				[50–60]	[50–60]	[40–50]

Source: CMA analysis.

Note: Protomed's share appear relatively high on value-based terms as its product is significantly more expensive than those of the other suppliers.

## Parties' analysis of market shares

13. Omnicell/MTS submitted its estimates of market shares in the UK in adherence packaging.<sup>1</sup> For completeness, we report these in Table 10 below for 2013, but we noted that the parties did not have data on other suppliers in the

<sup>1</sup> Omnicell/MTS initial submission, Annexes 5, 6 & 7.

market and therefore their estimates relied on a number of assumptions. Omnicell/MTS estimated that its and SurgiChem’s combined share of supply was around [REDACTED]% in the care-home segment, and [REDACTED]% in the domiciliary segment, with the overall combined share being around [REDACTED]%.

TABLE 10 Omnicell/MTS estimated shares of supply by volume – non-tender segment, 2013

	Care homes	Domiciliary	% Overall
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Source: Omnicell/MTS initial submission, Annex 6.

14. Omnicell/MTS’s estimates rely on estimates for the total size of the market and on estimates of other suppliers’ figures.<sup>2</sup> Total size of the market is estimated based on a combination of assumptions and estimates for the number of domiciliary and care-home patients, and their usage of adherence packaging. Omnicell/MTS used actual volumes of itself and SurgiChem to estimate shares of supply against the total size of the market, and used its own estimates of other suppliers’ volumes – although the basis or the source for such estimates was not clear.
15. We could not place much reliance on the shares of supply estimated by Omnicell/MTS, as they are likely to be underestimates of its own and SurgiChem’s shares. First, to the extent that Manrex should be excluded from the calculations of market share as it is ‘self-supplied’ by Boots (see discussion on this point below), the main parties combined market shares in the care-home segment and overall are significantly underestimated than if compared with a situation where Manrex/Boots is excluded. Secondly, there is a large share of supply, particularly for the domiciliary segment, allocated to ‘other’ identified and unidentified suppliers – this does not appear to be realistic as we are not aware of any significant other suppliers of adherence packaging in the UK that would fill this ‘other suppliers’ category. This may have to do with an overestimate of the total market size.<sup>3</sup>

<sup>2</sup> Omnicell/MTS initial submission, Annex 5, describes the methodology for its estimates in more detail.

<sup>3</sup> The overestimation of the market size could be a result of assuming (a) that all pharmacies purchase adherence packaging, and (b) that all pharmacies have the same number of patients using adherence packaging as Omnicell/MTS estimated average. Omnicell/MTS commented that it believed that substantially all pharmacies purchased adherence packaging; and noted that the PWC’s analysis of solus pharmacies suggested that [REDACTED]%

16. We have also considered whether the exclusion of pouch-based systems from the above calculations may have significantly distorted the obtained market shares:
- (a) HD Medi submitted that in 2013 it had a turnover of €300,000 but this included business outside the UK. This corresponds to less than approximately £250,000, which is [%] of the combined sales of adherence packaging by SurgiChem and Omnicell/MTS in the non-tender segment in 2013.
  - (b) Medication Management submitted that its sales of consumables for its pouch-robots (ie plastic packs) totalled around £[%] between 2012 and the present, and it sold £[%] worth of pouch-dispensing machines in the UK in the 2013/14 financial year.
17. By way of comparison, Omnicell/MTS and SurgiChem's combined non-tender sales of adherence packaging amounted to £[%] in 2013. Overall, we consider that these pouch-based competitors are relatively small, and their inclusion in our market shares calculations would not have any material effect on the results of the market share analysis.

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of such pharmacies were not supplied by either Omnicell/MTS or SurgiChem, and therefore must be supplied by someone else. We did not consider this to be the case as, for instance, pharmacies may not appear as direct customers in the parties' sales data, but they may be purchasing the parties' adherence packaging products through wholesalers, distributors or buying groups; if this was the case, the number of pharmacies purchasing from other third parties would be overestimated, and Omnicell/MTS's and SurgiChem's market shares would be underestimated.

## Supporting evidence for market definition

### Introduction

1. The purpose of market definition is to provide a framework for the analysis of the competitive effects of the merger. The relevant market contains the most significant competitive alternatives available to the customers of the merger firms and includes the sources of competition to the merger firms that are immediate determinants of the effects of the merger. Market definition is a useful tool, but not an end in itself, and an assessment of whether a merger may give rise to an SLC may take into account constraints outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others.<sup>1</sup>
2. The relevant product market is identified primarily by considering the degree of demand-side and, to a lesser degree, supply-side substitution. It is usual to define markets using the hypothetical monopolist test. This test delineates a market as a set of substitute products over which a hypothetical monopolist would find it profitable to impose a small but significant non-transitory increase in prices (SSNIP).<sup>2</sup> The test is described in detail in paragraphs 5.2.10 to 5.2.20 of the CC Merger Guidelines.
3. The hypothetical monopolist test is often used as a framework for analysis rather than applied in a mechanistic way. The CMA would consider evidence on the following factors when evaluating whether a SSNIP by the hypothetical monopolist would be profitable:<sup>3</sup> closeness of substitution between products in the candidate market,<sup>4</sup> variable profit margins<sup>5</sup> and price sensitivity of customers,<sup>6</sup> including a consideration of 'switching costs'.
4. It may be appropriate to aggregate markets based on supply-side considerations when the same production assets and supply chain can be used to

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<sup>1</sup> CC2, paragraphs 5.2.1–5.2.2.

<sup>2</sup> The test considers a hypothetical firm that is the only present and future seller of the products in the candidate market. As it is typically formulated, the test asks whether the hypothetical monopolist could profitably raise prices of the products in the candidate market by a SSNIP. If customers would respond to the price rise by switching to products outside the set to such an extent that the price increase by the hypothetical monopolist would not be profitable, the candidate market should be widened to include more substitute products. The test should then be reapplied to assess whether the new candidate market is appropriate.

<sup>3</sup> CC2, paragraph 5.2.15.

<sup>4</sup> This could include an assessment of the similarity of physical properties and intended use, information on relative prices and price correlations, views of customer and other third parties, consideration of internal documents such as marketing studies, business studies, board papers, etc.

<sup>5</sup> Higher variable profit margins of the products in the candidate market means that the hypothetical monopolist test is more likely to be satisfied.

<sup>6</sup> The less price sensitive the customers are, the more likely that the hypothetical monopolist test would be satisfied.

provide both sets of products, the same firms supply the products in question and the conditions of competition are the same.<sup>7</sup>

5. As part of the market definition analysis, we considered two dimensions of the relevant markets – product and geographic.

### **Product market**

6. Both parties either currently supply or have recently been developing products in the following categories:
  - (a) adherence packaging;
  - (b) accessories and support products for adherence packaging;
  - (c) automated filling machines for adherence packaging; and
  - (d) trolleys and cabinets.
7. We have therefore considered the product market definition for each of these product categories.

### ***Adherence packaging***

8. Omnicell/MTS submitted that the relevant market for adherence packaging included adherence packaging itself as well as the support products necessary to enable pharmacies to use adherence packaging (label flaps, replacement seals, rollers, templates and paddles). It submitted that the relevant market included both disposable and reusable products (including cards, blisters, plastic pill dispensers, automatic dispensers, plastic trays, pouches and pods). It submitted that card-based and plastic-based products were in the same relevant market, that single-dose and multidose adherence packaging formed part of the same market, and that adherence packaging for liquid medication had an additional feature as a product but did not constitute a separate segment of the market.<sup>8</sup>
9. SurgiChem agreed with Omnicell/MTS's submission on the scope of the relevant product market, and emphasised that it was not appropriate to subdivide the market further between card-based and plastic-based adherence packaging products.<sup>9</sup>

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<sup>7</sup> CC2, paragraph 5.2.17.

<sup>8</sup> Omnicell/MTS initial submission, pp6–8.

<sup>9</sup> SurgiChem initial submission, paragraphs 13–14.

### *Card and plastic-based products*

10. Omnicell/MTS submitted that customers (pharmacies) could and did switch between different suppliers including between suppliers of card-based and suppliers of plastic-based products. It noted that there were no technical issues or costs associated with switching, although some pharmacies might stock both in order to satisfy the demands of particular customers such as care homes. It further noted that there were some, overall insignificant, differences between suppliers' products and that some pharmacies might prefer card over plastic and vice versa. For example, some pharmacies might prefer plastic in order to be able to see the pills throughout the filling process, while others, in particular the larger chains, might prefer card for the purpose of showing a pharmacy's branding. We have also been told that in some instances care-home preferences may drive the choice of a particular type of packaging by pharmacies, although there has been no indication that care homes have a strong preference for card-based or plastic-based products.
11. SurgiChem submitted that card-based and plastic-based adherence packaging products were broadly interchangeable in terms of their functionality and that pharmacies therefore tend to be price driven. It explained that some customers might have a preference for one type of product over another, although some customers, including [X], sourced both card and plastic. SurgiChem submitted that customers could and did switch between card- and plastic-based products and that there were no technical or compatibility issues associated with switching.
12. Evidence gathered from customers (ie pharmacies) and competitors in relation to card-based versus plastic-based products suggested that, while some customers regarded card-based and plastic-based products as substitutable, others had a preference for one or another product, and some purchased both:
  - (a) Some customers and competing suppliers said that whether the product was card or plastic was not a critical distinction, and that pharmacists would be prepared to use either card- or plastic-based packaging depending on a range of other factors including price, quality, disposability, reliability of supply, ease and experience of use.
  - (b) Customer survey evidence suggested that some small and medium-sized customers would consider using suppliers of plastic-based adherence packaging products where they currently used suppliers of card-based adherence packaging products, and vice versa. Customers surveyed were asked about diversion in the hypothetical case that their current supplier increased prices by 5% or shut down. Among those who

specified a diversion destination(s), broadly around half of Omnicell/ MTS's customers said that they would divert to a plastic-based product supplier, and around half of SurgiChem's customers said that they would divert to a supplier of card-based products.<sup>10</sup>

(c) Some other customers told us that they had preferences for either card-based or plastic-based packaging. For instance, customer survey results indicated that 19% of Omnicell's and 14% of SurgiChem's customers responded that the type of packaging – ie whether card-based or plastic-based – was 'essential' in their choice of producer of adherence packaging to use.<sup>11</sup> We noted that around 24% of Omnicell/MTS's and SurgiChem's customers said that they used both card-based and plastic-based products.<sup>12</sup>

13. Thus, evidence seems to suggest that there would be substantial switching between card-based and plastic-based products in response to a SSNIP, despite a significant proportion of customers having a strong preference for one or other type of product.
14. In relation to the supply-side substitutability, Omnicell/MTS told us that outsourcing production of adherence packaging meant that it was easy for existing suppliers to switch to producing one or another product, but that outsourcing of card-based products might be less economically viable for the purpose of supplies to large pharmacy chains at the prices that resulted from tender awards.
15. SurgiChem told us that it would be simple for a supplier of one type of product to start supplying a new type of adherence packaging product, such as moving from card to plastic, or vice versa. It noted, however, that it would be very difficult for a supplier which did not have a large in-house manufacturing capability to produce a card-based product at a competitive price (ie if compared with prices of the vertically integrated suppliers, such as Venalink and Omnicell/MTS, which benefited from economies of scale in production and the procurement of raw materials).

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<sup>10</sup> Customer survey was conducted with 145 Omnicell/MTS and 248 SurgiChem customers; tender customers and 28 of the largest non-tender customers were not included within the scope of the customer survey sample (ie the survey covered small and medium-sized pharmacies). The full results of the customer survey are published [here](#).

<sup>11</sup> See Figure 20 of the customer survey report.

<sup>12</sup> See Figure 3 of the customer survey report.

### *Single-dose and multidose packaging*

16. Pharmacies purchase both single-dose and multidose packaging for different end-users.
17. Omnicell/MTS and SurgiChem submitted that single-dose and multidose packaging formed part of the same relevant product market for adherence packaging for the following reasons:<sup>13</sup>
  - (a) Although pharmacies mainly used single-dose packaging for supplies to care homes, multidose packaging was also used.
  - (b) Multidose and single-dose adherence packaging were generally substitutable on the supply side – there were no significant barriers to switching between supplying the two types, and most suppliers provided both single-dose and multidose products.
  - (c) Most pharmacies used both single-dose and multidose adherence packaging.
18. In practice, we understand that pharmacies tend not to regard single-dose and multidose packaging as substitutable, with the two different products supplied to two distinct groups of end-users.<sup>14</sup> Given the supposed benefits of single dose in evidencing compliance, and the convenience of this system if medication changes are made in a care-home setting, pharmacies appear unlikely to switch between the two in response to a SSNIP.
19. Not all suppliers of adherence packaging provide both single-dose and multidose packaging: the three largest suppliers of adherence packaging (SurgiChem, Omnicell/MTS and Venalink) sell both types of products, Protomed and Shantys supply only multidose products, and Boots/Manrex supply only single-dose adherence packaging for use in care homes.
20. Single-dose and multidose packaging are, however, very similar products from a production point of view. Omnicell/MTS told us that the only difference between single-dose and multidose packaging was the size of the blisters and, in the case of card-based products, the sizes of the openings in the cards. SurgiChem told us that it was not difficult for a supplier to move to supplying single-dose as well as multidose packaging, or vice versa: to produce a new product would require purchasing additional tooling for use by

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<sup>13</sup> [Omnicell/MTS initial submission](#), p8

<sup>14</sup> One exception to this is Protomed's Biodose product, which is a multidose product that can also hold liquids, primarily marketed to and used in care homes. It appears that customers regard this multidose product as a substitute for single-dose products, since care homes can and do switch between the Biodose system and the single-dose systems.

a thermoformer, the costs of which were low. SurgiChem added that an existing supplier could utilise its existing relationships (including relationships with pharmacies) and supply chain to supply a new product.

### *Pouch-based systems*

21. We have also considered whether pouches should be included within the same market as adherence packaging. Pouches are multidose products that are filled by a machine, although they could be used for single dose.
22. The cost of the cellophane rolls means that a roll of 28 pouches (equivalent to a weekly 'pack' of four multidose pouches per day) is priced at [X] pence. The cost is therefore broadly comparable to prices paid for card- and plastic-based blister packs. However, unlike blister packs, pouches cannot be filled manually, and switching to a pouch-based system requires a significant capital outlay to purchase a filling machine. Based on data received from Medication Management, a pouch-dispensing machine can cost from approximately £[X] to £[X] depending on specification.
23. SurgiChem told us that, given the significant capital expenditure, pouch machines were only suited to larger pharmacies and customers could not switch easily between blister packs and pouches. It said that pouch machines were not yet used widely in the UK, although it understood that pouch-based systems were now prevalent across Europe.
24. Omnicell/MTS, however, noted that the suppliers of pouch-based systems manufacturers offered solutions suitable for pharmacies of different sizes, as they offered machines suitable for larger pharmacy chains down to 'desk-top' machines suitable for smaller pharmacies. Furthermore, it added, pouch-based systems offered significant benefits in terms of labour cost savings due to automation. However, we noted that even for the smaller desk-top pouch-based systems the capital cost would be significant.<sup>15</sup>
25. Pouches cannot be filled manually and switching to a pouch-based system requires a significant capital outlay to purchase a filling machine. In light of this, the cost of switching to pouches is likely to be significant and it is unlikely that customers would switch from blister packs to pouches in response to a 5% price increase, even though, in terms of functionality, the two products are relatively similar.

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<sup>15</sup> Omnicell/MTS indicated that it had information that one of the desk-top machines available in the market would cost around £72,000 for a five-year lease.

### *Reusable packaging*

26. Of the main suppliers of adherence packaging in the UK, only SurgiChem, Shantys and W&W Medsystems are currently active in the supply of reusable packaging. SurgiChem told us that there was little difference for the end-user between the reusable and disposable products in terms of the ease of use, although disposable products have the advantage of being cleaner and have less of an issue with cross-contamination. Omnicell/MTS told us that, since the trend for a number of years now was for pharmacies to use disposable packaging, switching from disposable to reusable adherence packaging normally did not happen.<sup>16</sup>
27. There is no overlap between Omnicell/MTS and SurgiChem in reusable adherence packaging. Switching from disposable to reusable adherence packaging is unlikely in response to a SSNIP on disposable packaging given the convenience and other advantages of disposable packaging.

### *Customer segments*

28. The parties submitted that there were two distinct groups of customers for which the competitive conditions, including competition between Omnicell/MTS and SurgiChem, might be different:
  - (a) large pharmacy chains which held a formal tender in order to appoint suppliers of adherence packaging for domiciliary patients; and
  - (b) all other pharmacies, not purchasing adherence packaging by way of tender.
29. Omnicell/MTS submitted that the contracts resulting from such tenders tended to be at a [X] and all such customers purchased card-based products. Omnicell/MTS submitted that this was largely because the very significant total volumes produced by the card-based manufacturers enabled them to benefit from economies of scale, which were greater for card-based products than for plastic-based products. Only three large customers currently procure adherence packaging via a tender exercise: Boots and Lloyds Pharmacy chains and NHS Scotland.
30. We considered whether these two groups of customers should be considered as separate relevant markets. There are indications that the supply and

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<sup>16</sup> Survey evidence indicated that, of the surveyed smaller and medium-sized pharmacies, 13% of Omnicell/MTS's and 10% of SurgiChem's customers bought at least some reusable adherence packaging (we note that this may include semi-reusable products, such as SurgiChem's MDS cassette system).

demand conditions may be different for customers who have tendered if compared with other, non-tender customers because:

- (a) the three particular customers who have recently tendered have specified a card-based product, which SurgiChem and some other producers could not provide; and
- (b) suppliers need to be able to price competitively for the tender.

31. As a result, the set of competitors for these contracts has been more limited than it generally has been for non-tender customers and the prices achieved by tender customers have usually been significantly lower than those paid by non-tender customers.

#### *Support products and accessories*

32. We have identified a number of products that are only purchased and used as a result of having purchased a primary product. Adherence packaging can be considered to be a primary product and support products – such as label flaps, replacement seals, rollers, templates, ring binders and dividers – can be considered to be an associated secondary product. Competitive conditions in the primary and secondary products are likely to be similar if customers predominately buy the primary and secondary product from the same supplier.<sup>17</sup> In such cases, competitive conditions for the primary and secondary markets can be assessed jointly, ie secondary products could be included in the relevant product market with primary products.
33. Omnicell/MTS submitted that, generally, pharmacies decided separately on the purchasing of adherence packaging products and adherence support products, but that both Omnicell/MTS and SurgiChem generally supplied adherence support products only to customers purchasing the company's adherence packaging products and did not normally make separate sales of these products.<sup>18</sup> The parties' internal documents did not suggest that they have a distinct commercial strategy for support products.
34. We noted that many of these support products would be typically only compatible with adherence packaging of the same products (eg platens, replacement seals), that customers tended to purchase support products from the same supplier, and the main parties did not sell support products to customers not purchasing adherence packaging from them.

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<sup>17</sup> CC2, paragraph 5.5.20

<sup>18</sup> Omnicell/MTS initial submission, p7.

### ***Filling machines***

35. As noted in paragraph 3.10, Omnicell/MTS and SurgiChem would potentially overlap in the supply of single-dose automated filling machines for blister packs. Therefore the narrowest candidate market in this case is the supply of single-dose filling machines. We have considered whether other types of machines, including multidose filling machines, should be included in the relevant market. It is possible that multidose filling machines could be used to fill single-dose adherence packaging but, given that these machines tend to be more complex and are significantly more expensive (approximately [X] times the cost), it seems unlikely that customers would switch from single-dose to multidose filling machines in response to a SSNIP for single-dose filling machines.
36. We also considered whether filling machines and adherence packaging products form part of the same relevant market for adherence packaging, given that customers may choose adherence packaging systems as a whole, ie comprising the machine and the consumables. A key factor in this is whether the machine is compatible with packaging produced by other manufacturers. Both Omnicell/MTS's single-dose filling machine, the MTS 350, and SurgiChem's developed machine are [X]. Thus, this would suggest that the machines are in a separate relevant market from adherence packaging products.

### ***Trolleys, cabinets and bags***

37. Both parties sell trolleys and cabinets specialised for use with adherence packaging, as well as bags in which adherence packaging can be stored and transported.
38. SurgiChem told us that its 'normal' trolley was compatible with adherence packaging supplied by SurgiChem, Omnicell/MTS, Venalink and Manrex, and that it also supplied trolleys which were specifically compatible with Protomed and MultiMeds products, and other trolleys which were compatible with original patient packs. The parties submitted that cabinets and trolleys supplied by each of the parties were similar to the types of products used in hospitals and that such products would fall within the same market.<sup>19</sup> This would suggest that the trolleys are in a separate relevant market from adherence packaging products.

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<sup>19</sup> Omnicell/MTS initial submission, p13.

## Geographic market

### *Adherence packaging*

39. According to the parties their only significant geographic overlap was in the UK.<sup>20</sup>
40. Omnicell/MTS told us that the location of customers did not affect its ability, or that of its competitors, to supply adherence packaging and related products. It told us that its delivery costs did not vary according to the location of customers in mainland Britain<sup>21</sup> and Northern Ireland. It also said that its competitive strategy, including pricing and distribution, did not vary by region or geographical area.<sup>22</sup>
41. SurgiChem submitted that it made sales to its customers using its UK-based sales team. It told us that location within the UK was not important as all adherence packaging products were delivered by a courier. SurgiChem also told us that its customers' preferences and therefore its strategy did not vary in any significant way by region. In relation to Scotland, it noted that it supplied both single-dose and multidose products to pharmacies in Scotland (although it was not one of the suppliers of multidose adherence packaging approved by NHS Scotland).
42. Customer responses to our questionnaire did not indicate that a supplier's location within the UK was an important consideration for them, and hearings with customers or competitors did not raise this as a relevant issue either.<sup>23</sup>
43. Neither of the two major card-based manufacturers – Omnicell/MTS and Venalink – [REDACTED] manufacture within the UK. All of SurgiChem's plastic-based adherence packaging manufacture is outsourced to UK manufacturers, although the card-based product that it is introducing will be manufactured in [REDACTED]. Therefore, UK production does not appear to be necessary to operate in the UK. All the main competitors have UK presence through sales and distribution businesses, although some suppliers import the products themselves.

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<sup>20</sup> Omnicell/MTS told us that MTS or its subsidiaries sold adherence packaging products in other countries in addition to the UK. Sales in countries other than the UK are made by Omnicell/MTS's subsidiaries in the USA, Canada, Australia and Germany.

<sup>21</sup> Delivery times and costs for outlying islands, such as the Outer Hebrides and Channel Islands, might be higher than for mainland Great Britain or Northern Ireland.

<sup>22</sup> [REDACTED]

<sup>23</sup> We note that parties' customers in the UK operate in the UK only – they are local independent pharmacies or pharmacy chains – although some of the larger chains, such as Boots, may have an international majority owner or parent company.

## Glossary

<b>Adherence packaging</b>	The variety of products designed to help domiciliary and care-home patients to comply with their medication regimen. The most common forms of adherence packaging use disposable blister packs, which may be card-backed or plastic-backed, with each blister containing the medication to be taken at one time, or individually filled pouches on a roll with each pouch containing the medication to be taken at one time. Adherence packaging can also be split into <b>single-dose</b> or <b>multidose</b> formats.
<b>Automated filling machines</b>	Machines that automatically dispense medicines into packaging prior to sealing.
<b>Biodose</b>	The brand name of an adherence packaging product sold by <b>Protomed</b> . This product can be used for liquid medication as well as solid medication.
<b>Boots</b>	Alliance Boots, an international, pharmacy-led health and beauty group.
<b>Bupa</b>	BUPA Care Homes (CFG) plc, the parent company of <b>SurgiChem</b> .
<b>CC</b>	an independent public body which helped to ensure healthy competition between companies in the UK for the ultimate benefit of consumers and the economy. It was abolished in 2014 and replaced by the <b>CMA</b> .
<b>Celesio</b>	is an international wholesale and retail company and provider of logistics and services to the pharmaceutical and healthcare sectors. Celesio Group includes <b>Lloyds Pharmacy</b> and AAH Pharmaceuticals (a wholesaler).
<b>Chemistree</b>	
<b>CMA</b>	Competition and Markets Authority,
<b>Co-op</b>	The Co-operative Pharmacy, a UK pharmacy chain with 774 branches.
<b>Dexapack</b>	Dexapack B.V., a Turkish producer of blister and high-visibility packaging and <b>MDS</b> for the pharmaceuticals industry.
<b>Dispex</b>	A buying group that operates on behalf of dispensing doctors' practices, offering a range of support and advice.
<b>Easyblist</b>	The brand name for <b>adherence packaging</b> products supplied by <b>Omniceil/MTS</b> .

<b>eMAR</b>	Electronic Medication Administration Record.
<b>HD Medi</b>	A European-based pharmaceutical company, which supplies a <b>pouch-based adherence packaging</b> system together with <b>automated filling machines</b> for pouches.
<b>Heat seal</b>	A method of sealing <b>adherence packaging</b> blister packs once they have been filled with medicines, requiring a heat sealing machine and appropriate seals.
<b>Jones Packaging</b>	The parent company of Venalink.
<b>Lloyds Pharmacy</b>	A community pharmacy and healthcare provider with over 1,650 pharmacies across the UK, mainly in community and health centre locations – part of <b>Celesio</b> .
<b>Macpac</b>	A manufacturer of thermoformed blister packaging.
<b>Manrex</b>	Manrex Limited, a Canadian company providing medication compliance systems, long-term care systems, blister packaging, medication carts, pharmacy automation and pill crushers. Manrex has licensed <b>Boots</b> to manufacture and supply its products in the UK.
<b>MDS</b>	Monitored Dosage Systems.
<b>Medication Management</b>	Medication Management Solutions, a UK-based company offering medication management solutions, including <b>pouch-based adherence packaging</b> systems together with an <b>automated filling machine</b> .
<b>Medication Systems Limited</b>	A supplier of plastic-based <b>multidose adherence packaging</b> , consisting of a plastic tray with individual pods, in the UK.
<b>MedPak</b>	MedPak Holdings, Inc, the parent company of <b>MTS</b> .
<b>MTS</b>	MTS Medication Technologies, Inc.
<b>MTS Limited</b>	MTS Medications Technologies Limited, the immediate UK subsidiary of <b>MTS</b> and of the ultimate parent company <b>Omniceil</b> .
<b>Multidose</b>	An <b>adherence packaging</b> format whereby several medicines are included in one blister to be taken at the same time.
<b>MultiMeds</b>	The brand name of a plastic <b>multidose</b> blister pack system with detachable pods, supplied by <b>Medication Systems Limited</b> .

<b>NHS Scotland</b>	The NHS in Scotland encompasses 14 regional NHS Boards, seven Special NHS Boards and one public health body.
<b>Nomad</b>	The brand name for <b>adherence packaging</b> products supplied by <b>SurgiChem</b> .
<b>Nomad Clear</b>	The brand name of a <b>multidose</b> disposable plastic-based <b>adherence packaging</b> product supplied by <b>SurgiChem</b> .
<b>Nomad Concise</b>	The brand name of a single-dose disposable plastic-based <b>adherence packaging</b> product supplied by <b>SurgiChem</b> .
<b>Nomad MDS</b>	Also known as Nomad MDS Cassette system. It is a semi-disposable <b>multidose adherence packaging</b> product supplied by <b>SurgiChem</b> . It consists of a hard plastic, reusable cassette, and a disposable plastic-based blister pack which is inserted in the cassette.
<b>OFT</b>	Office of Fair Trading, a UK regulator with the objective of making markets work well for consumers, abolished in 2014.
<b>Omnicell</b>	Omnicell, Inc., the ultimate US parent company of <b>MTS</b> .
<b>Pillmate</b>	Pillmate MD Pack, the brand name for plastic-based <b>multidose adherence packaging</b> by <b>Shantys</b> and it was previously known as Medipack.
<b>Pouch-based adherence packaging</b>	<b>Adherence packaging</b> in the form of plastic pouches where each patient is provided with their medication on a roll of plastic pouches, with each plastic pouch containing the medication to be taken at one time.
<b>Pressure seal</b>	A method of sealing <b>adherence packaging</b> blister packs once they have been filled with medicines, requiring pressuring seals on to the blister packs using a roller.
<b>Protomed</b>	Protomed Ltd, a pharmaceutical technology company specialising in medication compliance and management applications. It supplies a plastic-based product under the name <b>Biodose</b> that has removable, sealed pods that can accommodate both solid and liquid medication.
<b>Robotik</b>	Robotik Technology, a company producing <b>pouch-based adherence packaging</b> machines.
<b>Rowlands</b>	Rowlands Pharmacy, a UK pharmacy company with approximately 500 branches.
<b>Shantys</b>	Shantys Limited, which produces compliance aides for medicines in the UK and internationally. It supplies plastic-based <b>multidose adherence packaging</b> under the brand

name of **Pillmate** and it also supplies reusable **adherence packaging**.

**Single-dose**

An **adherence packaging** format whereby a single medicine is included in one blister to be taken at the relevant time.

**SSNIP**

A term used in economic analysis for market definition, meaning a small but significant and non-transitory increase in price.

**Support products for adherence packaging**

Products and accessories that are used with **adherence packaging**, such as label flaps, labels, replacement seals, rollers, templates, ring binders, dividers.

**SurgiChem**

SurgiChem Limited.

**Tesco Pharmacy**

Pharmacies run by the Tesco supermarket chain.

**Venalink**

A UK-based company (part of **Jones Packaging**) providing **multidose adherence packaging**.