APPENDIX 2.1
(referred to in paragraphs 2.20 and 2.44)

The proportion of supply of POMs
by veterinary surgeons engaged in conducts of concern

Introduction

1. Veterinary surgeons provide services to people who own and care for animals, and they prescribe and dispense POMs as part of these services. There are about 20,700 veterinary surgeons registered to practise in the UK. The RCVS reports about 11,500 in general private practice, and paragraph 6.32 explains that around 9,700 of these are likely to be active. These work at or from surgeries in veterinary hospitals, main practices or branches. The RCVS lists 3,500 addresses of private UK surgeries, of which about 3,200 are likely to be active surgeries.

2. The CC contracted BMRB International Limited (BMRB) to conduct a number of surveys in the course of this research. We consider that the surveys were reliable and the results robust for the purposes of our inquiry. The first of these was a telephone survey of a representative sample of 610 UK veterinary surgeries (survey BMRB1). BMRB supplied the CC with anonymous responses and from this data we have inferred the proportion of the supply of POMs sold by veterinary surgeons that engaged in conducts that prevented, restricted or distorted competition.

3. The remainder of this appendix describes the background to the analyses, summarizes the methods used to gather the data, outlines the analyses of the proportion of veterinary surgeons engaged in certain conducts, and the estimation of the proportion of supply affected. Two alternative estimates are made based on whether the veterinary surgeons are considered to have reported only their conduct in the supply of POMs or the general conduct of the surgeries where they worked. Finally, these results are discounted by the proportion of POMs that is not supplied by veterinary surgeons in private practice to arrive at an overall lower bound.

Background

4. Paragraph 2.16 identified a set of conducts of veterinary surgeons that prevent, restrict or distort competition. Evidence relevant to these conducts is set out in Appendix 6.1, which reports a telephone survey of veterinary surgeries conducted by BMRB (BMRB1), Appendix 6.2, which reports a postal survey of veterinary surgeries by BMRB (BMRB2), and Appendix 6.3, which reports two surveys of pet owners by PSR and by BMRB (BMRB3).

5. Our surveys provided evidence on the proportions of veterinary surgeons engaged in the following conducts:

(a) not informing clients about prescriptions;

(b) declining to write prescriptions;

(c) not providing itemized bills to pet owners;

(d) marking up on published list price; and

(e) pricing POMs to subsidize professional fees.

6. These conducts are a subset of those identified in paragraph 2.16 and referred to in paragraph 4 above. Because the analysis presented in this appendix is based on the evidence from survey BMRB1, which is a single and coherent data set, only estimates of the proportion of supply affected by these five conducts will be presented here. Therefore, these estimates will tend to underestimate the true proportion of the supply of POMs affected by the conducts identified in paragraph 2.16.
7. The next section describes the methods used to gather the data, and this will be followed by discussion of the analyses of the proportions of veterinary surgeons engaged in the five conducts, and estimates of the proportions of supply affected.

**Methodology of the survey**

8. Appendix 6.1 details how BMRB wrote to all veterinary surgeries alerting them to the inquiry. BMRB also set up an Internet/web version of the survey after the telephone fieldwork period, so that those who had not been contacted could submit responses if they chose to do so. The low response rate to the web survey raised concerns that those respondents may not have been representative, and those responses have not been used in the estimates that will be discussed here.

**Selection of respondents**

9. BMRB used a list of veterinary surgeries, provided by the RCVS, as the frame from which to draw a random sample of UK veterinary surgeries. Respondents were mainly senior partners, partners, principals or owners. These are the most knowledgeable and hence most reliable informants concerning the conduct of veterinary surgeons in private practice. Table 1 shows the different types of respondent, and further details of the demographics of respondents are given in the report on the survey in Appendix 6.1.

<table>
<thead>
<tr>
<th>Job title of respondent</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior partner/senior veterinary surgeon</td>
<td>356</td>
<td>58</td>
</tr>
<tr>
<td>Other partner/veterinary surgeon</td>
<td>146</td>
<td>24</td>
</tr>
<tr>
<td>Assistant veterinary surgeon</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Practice manager</td>
<td>54</td>
<td>9</td>
</tr>
<tr>
<td>Principal</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Owner</td>
<td>13</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>610</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: CC calculations; BMRB survey.*

10. All respondents who could provide estimates of their surgery’s POM sales have been assumed to be reliable for the purpose of estimating the distribution of POM sales value. However, only the responses of veterinary surgeons themselves have been used to estimate the proportion of veterinary surgeons engaged in particular conducts. Table 1 shows that 54 respondents were practice managers and 14 respondents were classified in other ways. Thus 68 out of the 610 respondents were not classified as veterinary surgeons and these have been excluded from estimates of the proportions engaged in particular conducts.

**Approach to analysis**

**The interpretation of responses**

11. The respondents may be viewed as having reported either their personal conduct, or the conduct that takes place throughout their surgery. Taking the former view, the sample of 542 (610 less 68) respondents gave representative information on the conducts of the population of about 9,700 individual veterinary surgeons in active private practice. Taking the latter view, the 542 respondents gave representative information on the conducts taking place in the population of about 3,200 private veterinary surgeries.

**The proportions to be estimated**

12. Two types of proportion are discussed in what follows. These are:
(a) the proportion of respondents engaging in certain conducts; and

(b) the proportion of POM supply associated with certain conducts.

13. Estimates of type (a), the proportions of persons engaged in particular conducts, are derived from the proportions of veterinary surgeons reporting these conducts. These estimates are the same whether each respondent is considered to be reporting personal conduct, or the conduct that takes place generally in the surgery.

14. Estimates of type (b), the proportion of supply associated with particular conducts, differ according to whether the supply was by the respondent or the respondent’s surgery. However, as will be seen, the alternative approaches do not lead to materially different conclusions.

Proportions of veterinary surgeons engaged in conducts

Failing to inform clients that they can ask for prescriptions

15. Many veterinary surgeons reported failing to inform animal owners that they could ask for prescriptions. Table 2 shows that 75 per cent of veterinary surgeons interviewed said that they did not inform their clients that they could ask for a prescription, or they only informed their clients when clients asked. In other words, these veterinary surgeons failed to volunteer to clients information about prescriptions.

<table>
<thead>
<tr>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients are not informed or only when they ask</td>
<td>408</td>
</tr>
<tr>
<td>Notice in waiting room</td>
<td>44</td>
</tr>
<tr>
<td>Leaflet in waiting room</td>
<td>10</td>
</tr>
<tr>
<td>Told by staff</td>
<td>56</td>
</tr>
<tr>
<td>If it is a human drug</td>
<td>7</td>
</tr>
<tr>
<td>Word of mouth</td>
<td>3</td>
</tr>
<tr>
<td>When drug is not in stock</td>
<td>18</td>
</tr>
<tr>
<td>For long-term/repeat treatments</td>
<td>4</td>
</tr>
<tr>
<td>Other response</td>
<td>13</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2</td>
</tr>
<tr>
<td>Total respondents</td>
<td>542</td>
</tr>
</tbody>
</table>

Source: CC calculations; BMRB survey.

Note: Multiple responses were allowed, so that percentages do not sum to 100.
Base: All veterinary surgeon respondents.

Declining to provide prescriptions on request

16. Few veterinary surgeons reported declining to provide prescriptions on request. Eight (that is, somewhat over 1 per cent—see Table 3) told BMRB that in the last year following a diagnosis where a prescription medicine was required they had declined a request to provide a written prescription.

<table>
<thead>
<tr>
<th>Number of veterinary surgeons declining to write a prescription following a diagnosis that a POM was required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes—declined a request in last year</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Don’t know</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: CC calculations; BMRB survey.

Base: All veterinary surgeon respondents.
Failing to provide itemized bills

17. Some veterinary surgeons reported failing to provide itemized bills. Table 4 shows that 29 per cent gave answers such as ‘sometimes’, ‘rarely’, ‘never’, ‘on request only’, ‘only for clients with insurance’ that implied that they did not routinely provide pet-owning customers with itemized bills. Those working in surgeries that dealt with large animals were not asked this question.

<table>
<thead>
<tr>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always</td>
<td>364</td>
</tr>
<tr>
<td>Sometimes</td>
<td>62</td>
</tr>
<tr>
<td>Rarely</td>
<td>12</td>
</tr>
<tr>
<td>Never</td>
<td>2</td>
</tr>
<tr>
<td>On request only</td>
<td>78</td>
</tr>
<tr>
<td>Only for clients with insurance</td>
<td>2</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2</td>
</tr>
<tr>
<td>Not stated</td>
<td>9</td>
</tr>
<tr>
<td>Not asked*</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>542</td>
</tr>
</tbody>
</table>

Source: CC calculations; BMRB survey.

*Specialist large-animal veterinary surgeons were not asked this question.

Note: Percentages have been rounded.

Base: All veterinary surgeon respondents.

Marking up on published list price

18. Many veterinary surgeons said that they priced POMs in such a way as not to reflect the true cost to them, by adding a mark-up to the list price and not considering discounts or rebates. First, in the BMRB1 survey, veterinary surgeons were asked about the basis for their mark-ups after being asked what the mark-ups were. Second, in the BMRB2 survey, veterinary surgeons were asked similar questions in the reverse order. In both cases the distribution of responses was very similar, showing that respondents had interpreted the questions in the same way in both surveys, so that reliable estimates can be made from the BMRB1 survey. Table 5 shows that 75 per cent of the veterinary surgeons responding to survey BMRB1 said that they priced POMs by adding a mark-up to the notional list price.

<table>
<thead>
<tr>
<th>Basis of mark-up for POMs</th>
<th>Number</th>
<th>%</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>The published list price</td>
<td>404</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>List price less wholesaler’s discount</td>
<td>39</td>
<td>7</td>
<td>82</td>
</tr>
<tr>
<td>List price less wholesaler’s discount and manufacturer’s rebate</td>
<td>51</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>Refused or no answer</td>
<td>14</td>
<td>3</td>
<td>94</td>
</tr>
<tr>
<td>Don’t know</td>
<td>34</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>542</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: CC calculations; BMRB survey.

Base: All veterinary surgeon respondents.

Pricing POMs so as to subsidize, to a greater or lesser extent, professional fees

19. Many veterinary surgeons reported pricing medicines so as to subsidize their professional fees. Table 6 shows that 55 per cent said that they priced medicines so as to subsidize, to a greater or lesser extent, consultation fees.
TABLE 6  Whether veterinary surgeons say medicine charges subsidize their consultation charges

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>%</th>
<th>Cumulative</th>
</tr>
</thead>
<tbody>
<tr>
<td>To a greater extent</td>
<td>46</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>To some extent</td>
<td>151</td>
<td>28</td>
<td>36</td>
</tr>
<tr>
<td>To a lesser extent</td>
<td>100</td>
<td>18</td>
<td>55</td>
</tr>
<tr>
<td>Not at all</td>
<td>219</td>
<td>40</td>
<td>95</td>
</tr>
<tr>
<td>Refused</td>
<td>1</td>
<td>0</td>
<td>95</td>
</tr>
<tr>
<td>Don’t know</td>
<td>25</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>542</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: CC calculations; BMRB survey.

Base: All veterinary surgeon respondents.

Proportion reporting at least one of the conducts

20. Table 7 summarizes the previous results and considers the possible sampling errors, thereby providing lower bounds to each of the estimates. The table shows that 96 per cent of the veterinary surgeons reported that they engaged in at least one of the conducts identified previously and, allowing for random sampling errors, a lower limit on the true proportion of all veterinary surgeons engaging in at least one of the conducts was 92 per cent.

TABLE 7  The proportions of veterinary surgeons reporting particular conducts

<table>
<thead>
<tr>
<th></th>
<th>per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not informing clients about prescriptions</td>
</tr>
<tr>
<td>Lower limit of proportion*</td>
<td>69.2</td>
</tr>
<tr>
<td>Estimated proportion†</td>
<td>75.3</td>
</tr>
</tbody>
</table>

Source: CC calculations based on BMRB International survey.

*There is a probability of 1 in 1,000 that the true value is less, based on the survey results.
†Most likely value based on the survey results.
Base: Veterinary surgeons telephoned by BMRB (542).

Proportion of supply affected

21. Estimates are computed next for the proportion by value of POMs supplied by veterinary surgeons in private practice and engaged in the conducts identified in Table 7.

22. Each conduct creates two categories, namely those:

(a) ‘engaged in the conduct’; and those

(b) ‘not engaged in the conduct’.

23. Those in category (a) may supply a different value of POMs on average than those in category (b). Therefore, to obtain the proportion of supply in category (a), the proportion of respondents in category (a) must be adjusted by the value of the supply of POMs that they represent.

24. As noted previously, respondents may be viewed as reporting their personal conduct, or the conduct that takes place in their surgery. We will examine in turn the consequences of each of these interpretations on the estimated proportions of supply.
Estimated proportion of supply by veterinary surgeons

25. BMRB1 asked about the number of veterinary surgeons working at each surgery and the number of days they worked there. Following the approach to this data used by BMRB, we assumed that a full-time veterinary surgeon worked five and a half days. BMRB1 also asked respondents to estimate their surgeries’ annual drug sales, to the nearest £1,000, and then to estimate the percentage of that which was POM. Using this data, we computed the POM sales for each FTE veterinary surgeon at each surgery and assumed that, on average, these were fair estimates of the POM sales of the veterinary surgeons that responded to the survey. These computations gave distributions of supply in the two categories referred to in paragraphs 22 and 23 above and enabled the proportions of respondents in each category to be adjusted by the value of the supply of POMs that they represented.

26. Table 8 shows the results of adjusting the estimates in Table 7 to take into account the distribution of POM sales per veterinary surgeon. This adjustment is coherent with the view that each respondent reported only his or her personal conduct in supplying POMs.

<table>
<thead>
<tr>
<th>TABLE 8 The proportion of POMs sold by veterinary surgeons* engaged in particular conducts</th>
<th>per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not informing clients about prescriptions</td>
<td>68.3</td>
</tr>
<tr>
<td>Declining to write prescriptions</td>
<td>0.3</td>
</tr>
<tr>
<td>Not providing itemized bills to pet owners</td>
<td>19.4</td>
</tr>
<tr>
<td>Marking up on published list price</td>
<td>69.8</td>
</tr>
<tr>
<td>Pricing POMs to subsidize professional fees</td>
<td>53.2</td>
</tr>
<tr>
<td>At least one of these conducts</td>
<td>94.3</td>
</tr>
</tbody>
</table>

Source: CC calculations based on BMRB International survey.

*Assuming that respondents reported their personal conduct.
†There is a probability of 1 in 1,000 that the true value is less, based on the survey results.
‡Most likely value based on the survey results.
Base: Veterinary surgeons telephoned by BMRB (542).

27. Table 8 estimates the proportion of supply by veterinary surgeons engaged in at least one of the conducts at over 97 per cent. Table 8 also shows lower limits on the proportions of supply by veterinary surgeons for each conduct. It shows, with a high degree of confidence, that more than 94 per cent of supply by veterinary surgeons was affected by at least one of the conducts.

Estimated proportion of supply by veterinary surgeries

28. As noted above, BMRB asked respondents to estimate their surgeries’ annual medicine sales and the percentage of that which was POM. Table 9 presents the results of adjusting the estimates in Table 7 to take into account the distribution of POM sales per surgery. This adjustment corresponds to the view that each respondent reported the general conduct in his or her surgery with respect to the supply of POMs.

<table>
<thead>
<tr>
<th>TABLE 9 The proportion of POMs sold by veterinary surgeries associated with particular conducts*</th>
<th>per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not informing clients about prescriptions</td>
<td>69.2</td>
</tr>
<tr>
<td>Declining to write prescriptions</td>
<td>0.2</td>
</tr>
<tr>
<td>Not providing itemized bills to pet owners</td>
<td>16.8</td>
</tr>
<tr>
<td>Marking up on published list price</td>
<td>71.5</td>
</tr>
<tr>
<td>Pricing POMs to subsidize professional fees</td>
<td>56.3</td>
</tr>
<tr>
<td>At least one of these conducts</td>
<td>91.8</td>
</tr>
</tbody>
</table>

Source: CC calculations based on BMRB International survey.

*Assuming that respondents reported the general conduct in their surgeries.
†There is a probability of 1 in 1,000 that the true value is less, based on the survey results.
‡Most likely value based on the survey results.
Base: Veterinary surgeons telephoned by BMRB (542).
29. Table 9 estimates the proportion of supply by veterinary surgeries engaged in at least one of the conducts at just below 97 per cent. Table 9 also shows lower limits on the proportions of supply through surgeries for each conduct. It shows, with a high degree of confidence, that more than 91 per cent (that is, a lower limit of 91.8 per cent) of supply through veterinary surgeries was affected by at least one of the conducts.

Proportion of all POMs affected

30. The great majority of POMs in terms of value is supplied by veterinary surgeons in private practice. Other channels for the supply of POMs include: pharmacies; veterinary surgeons in government service, universities, industry and charities; and veterinary surgeons working for specialist agricultural businesses such as poultry or fish farms. As explained in paragraph 4.23, the share of POMs going to veterinary wholesalers is about 89 per cent. As noted in paragraph 5.25, none of the veterinary wholesalers sought to contest that at least 90 per cent of their POM sales in 2001 was to veterinary surgeons in private practice. Combining these figures gives a figure of at least 80 per cent of all POMs being sold by veterinary surgeons in private practice in the UK. However, the figure ignores direct sales by manufacturers to veterinary surgeons, which would make the true figure slightly higher.

31. We have indicated that veterinary surgeons in private practice supplied at least 80 per cent of POMs by value in the UK in 2001. Table 9 showed that we have also a lower limit of 91.8 per cent on the POMs by value supplied by private veterinary surgeries and affected by the identified conducts. Combining these figures we find that at least 73 per cent by value of all POMs supplied in the UK was affected by the conducts.

Summary

32. The results of a telephone survey have allowed a lower bound to be placed on the proportion of all POMs sold in the UK and supplied by veterinary surgeons in private practice that were engaged in at least one of five conducts identified as preventing, restricting or distorting competition. The conducts were: not informing clients about prescriptions; declining to write prescriptions; not providing itemized bills to pet owners; marking up on published list prices; and pricing POMs to subsidize professional fees.

33. The statistical lower bound on the proportion of veterinary surgeons engaged in at least one of these conducts is 92 per cent. The statistical lower bound on the proportion of POMs supplied by veterinary surgeons engaged in at least one of these conducts is 94 per cent. The statistical lower bound on the proportion of POMs supplied by veterinary surgeries where veterinary surgeons reported engaging in at least one of these conducts is 91 per cent. Moreover, since veterinary surgeons have been engaged in additional conducts that prevent, restrict or distort competition, the proportions of POMs supplied in private practice affected by all such conducts were at least as large as those affected by the five conducts identified above.

34. Allowing for the POMs that are supplied other than by veterinary surgeons in private practice, we conclude that at least 73 per cent of the supply of all POMs in the UK is affected by conducts that prevent, restrict or distort competition.