

## ANNEX 2: ECONOMIC COSTS AND BENEFITS OF THE PROPOSED DIVESTITURE OF HCA HOSPITALS

### SUMMARY

- HCA has submitted extensive evidence on both the quality of its private healthcare provision and its record on investment and innovation, which contradicts the CC's provisional AEC finding, and which CC has incorrectly dismissed without conducting its own proper analysis.
- The CC incorrectly infers, contradicting standard economic theory, that a reduction in local concentration will increase the strength of competition in private healthcare provision London. As a result, the benefits the CC attributes to its proposed divestment remedy are significantly overstated.
- The CC has no evidence for its contention that divestment will increase quality and incentives to innovate in London – in fact, quality of care, investment and innovation are likely to be reduced post-divestment, to the detriment of patients, at both divested and remaining HCA facilities.
- Using flawed self-pay price concentration and insured price analyses, and using inappropriate assumptions in applying those analyses, the CC has significantly overstated the price benefits of its proposed divestments. It has no robust evidence that there will be any price benefits. Even if one were to accept the CC's flawed PCA results, but correct for the CC's inappropriate application of price benefits to patients its analysis does not cover, the estimated price benefits of the proposed divestiture would be around one tenth of those calculated by the CC.
- The CC has also underestimated the substantial reduction in economies of scale and scope arising from the proposed divestment, incorrectly dismissing HCA's evidence whilst conducting no proper analysis of its own.
- The CC's calculation of the net present value from the proposed divestment remedy is therefore substantially overstated. HCA estimates that the net present value is in fact negative. Using its own estimates of costs and benefits, HCA estimates the NPV to be [REDACTED] over the 20 year time horizon. Furthermore, the NPV is in fact likely to be significantly lower than this, once the detrimental impacts of the proposed divestment on quality, innovation, chilling effects on investment and patient outcomes are taken into account.

### INTRODUCTION

- 1.1 The stated aim of the CC's proposed divestiture remedy is to address the alleged AEC arising from weak of competitive constraints. By altering the structure of the local market to assign greater market share to a firm other than HCA, the CC claims that it will increase competition between hospitals on price and quality.<sup>1</sup>
- 1.2 As set out in its response to the CC's PFs, HCA strongly submits that there is no AEC in London and that the evidence does not support the CC's provisional conclusions on the AEC. HCA faces intense competition from a range of hospitals within central London, Greater London and the Home Counties, as well as more widely across the UK and internationally. As a result,

---

Paragraph 2.6 of the CC's Provisional Decision on Remedies

HCA charges competitive rates for its services and invests heavily to be an innovative, high quality private healthcare provider meeting the needs of self-pay, insured and international patients who value HCA's price-quality offering.

- 1.3 Not only does the CC have no basis for a finding of an AEC in London, but even if that finding was correct (which HCA believes it is not), the CC has no basis for a divestment remedy. Specifically the CC has not shown how the transfer of ownership of the London Bridge and Princess Grace hospitals to a different provider would improve outcomes for patients in terms of either quality of care or price. HCA has also highlighted its concerns with the CC's selection of the proposed divestiture package in central London in section 7 of the main text of HCA's response to the PDR. HCA considers that the CC has no legal case for divestiture and bases its divestiture package on an unjustified revenue share threshold in an ill-defined local market, which demonstrates that the CC's case for its proposed divestitures of HCA hospitals is not justified.
- 1.4 Specifically, HCA is strongly of the view that the proposed divestiture of the Princess Grace and London Bridge hospitals will impose significant costs without commensurate benefits. HCA contends that the CC's analysis of the costs and benefits of the proposed package of divestitures is fundamentally flawed, omitting key categories of cost, underestimating others and presenting an assessment of price benefits, based on flawed evidence and methodology, which overestimates any benefits of divestment.
- 1.5 Of particular concern is the CC's assertion that the divestment will lead to improvements in quality and increased incentives to innovate. The CC has failed to articulate a coherent economic theory of why a change in market structure will lead to an increase in quality and incentives to innovate nor of how it expects the market to develop post-divestment. Indeed, the relevant economic theory shows that there is no such straightforward link between market structure, quality and innovation. This undermines the CC's simplistic assertion that its divestment remedy will improve quality and increase incentives to innovate.
- 1.6 Indeed, whilst acknowledging that HCA has pursued a high quality, high acuity strategy, the CC accepts that, *"the new owner or owners might adopt a different strategy if this is what signals from the newly competitive London market suggested was optimal. We [the CC] thought that in either circumstance the new competitive dynamics in London would ensure that patients' needs would be adequately met"*<sup>2</sup>. In other words the CC is simply assuming that a divestment will create the conditions for patients' needs to be optimally satisfied by the market. It provides no analysis or justification as to why the change in market structure it is proposing to artificially create would actually lead to such an outcome.
- 1.7 The CC has no clear view of how competition will develop or of the potential impact of the divestment remedy on quality, investment and prices under different strategies of the new owner(s). HCA believes that the CC's proposed divestitures could seriously damage the provision of private healthcare in London and the UK with direct adverse effect on patient outcomes. The CC must seriously consider these risks and explicitly account for them in its assessment of the proposed divestment remedy's proportionality.
- 1.8 Furthermore, any view of how the market will develop following the CC's divestment remedy must take into account the other proposed remedies that the CC intends to introduce. The CC's proposed remedies on consultant incentives and information remedies will, according to the

---

<sup>2</sup> Paragraph 2.110 of the CC's Provisional Decision on Remedies

CC, increase competition in London. This may happen through increasing the level and quality of information to patients in relation to hospital and consultant performance and fees, allowing patients to assess the quality-price trade-off more effectively, and hence encouraging hospital operators to compete even more vigorously on these grounds. Therefore, HCA considers that the CC's market assessment over a 20 year time period, assuming no changes other than divestment, is inappropriate. This assessment assumes that the other remedies, as well as future entry and expansion in London, would have no benefit, and instead ascribes to the divestment remedy the full size of the price benefits it thinks it will create. This assumption must be incorrect if the CC considers that the other remedies it is proposing will be effective.

- 1.9 Given the draconian nature of the divestiture remedy the CC is proposing, and the significant consequences this will have on the market, it is vital that the CC conducts a full and thorough assessment of all the costs and benefits that flow specifically from divestiture. Proposing a divestment as a result of a market investigation is not equivalent to requiring divestiture in the context of prohibiting an uncompleted or recently completed merger. The linkages between the divested assets and the remaining business are far more developed (and therefore the costs of separation are far more substantial) than in a merger scenario, and the potential for substantial chilling effects on investment are far greater in the context of a forced divestment.
- 1.10 As highlighted in HCA's submission on the costs of divestment, it is vital that the CC takes account of all economic costs or welfare losses associated with divestment, whether they are easy to quantify or not. HCA considers that the divestment remedy will lead to substantial costs in relation to reduced quality and reduced investment and innovation, including substantial chilling effects on future investment. This would ultimately be to the detriment of patient care. HCA contends that the CC's analysis of the evidence HCA submitted in relation to these substantial costs is inadequate, and that had the CC conducted a robust, evidence-based analysis, its assessment of the effectiveness and proportionality of the proposed remedy would undermine its case for divestiture of two of HCA's hospitals.
- 1.11 This Annex sets out HCA's assessment of the costs and benefits of the divestiture of the London Bridge and Princess Grace hospitals and highlights the errors and omissions in the CC's analysis as set out in the PDR. This Annex first shows that the CC's alleged benefits arising from the divestment remedy, in relation to quality, investment, innovation and price are unfounded. It goes on to discuss the costs of the divestment remedy in terms of substantial reductions in quality, investment, innovation and economies of scale. The Annex then sets out the flaws in the CC's analysis of transaction and restructuring costs. Finally, HCA provides its comments on the CC's methodology for calculating the net present value (NPV) of the divestment remedy, balancing the expected costs and benefits.
- 1.12 Overall, HCA considers that the CC has not met the required evidentiary standard to be able to conclude in its Final Report that the proposed divestitures are proportionate and in fact, HCA submits that the evidence shows that the divestment remedy produces costs which are disproportionate to the aim.

#### **THE CC'S ALLEGED BENEFITS OF DIVESTMENT ARE UNFOUNDED**

- 1.13 The CC concludes that there are two main benefits arising from its divestiture package: i) a reduction in the prices charged to private patients at both the divested hospitals and those retained by BMI and HCA; and ii) an improvement in the quality of private healthcare services and in innovation in the local markets where divestitures are required. This section sets out

HCA's views on these alleged benefits, which overall HCA considers the CC has significantly overstated.

- 1.14 This section begins by discussing the CC's arguments in relation to the impact of divestment of HCA's Princess Grace and London Bridge hospitals on quality, investment and innovation. The section then discusses the CC's analysis of the impact of these divestments on prices in London.

**The CC has failed to make the case that the divestment remedy will lead to any increases in quality or innovation**

- 1.15 Quality of private healthcare provision is composed of a number of factors relating to how HCA administers and runs its hospitals which all impact on patient experience, efficiency and ultimately clinical outcomes. In addition, providing the highest quality private healthcare requires being at the forefront of research frontiers, offering patients the choice of the latest and most effective treatments. Improvements in quality can be brought about in a number of ways, some result from strategies that can be changed in the short term (for example hiring more or better nursing staff) and others require longer term investments, including investments in innovative techniques and treatments.
- 1.16 The CC provisionally concluded that its divestment remedy will lead to improvements in the quality of private healthcare and increased incentives on private healthcare providers to innovate, including in London. This provisional conclusion appears to be based on an inference that the change in market structure (i.e. reduction in concentration) arising from the CC's proposed divestment remedy will increase competition and that this will thereby increase quality as well as incentives to invest in innovation.
- 1.17 However, the CC's inference is not supported by robust economic evidence. To conclude that the divestment remedy will lead to improved quality or increased incentives to innovate, it is incumbent on the CC to spell out a coherent explanation of why the change in market structure will increase competitive pressure on quality and incentives to innovate. Furthermore, the CC needs to explain how the (smaller) firms operating in the different market structure, would have the ability to invest in the range of innovative treatments in which HCA currently invests. Such an explanation must be grounded in relevant economic theory, and must be based on robust and reliable evidence. The CC has failed to provide any such explanation, a failure which is stark given HCA's numerous submissions highlighting the importance of quality, innovation and investment in the provision of private healthcare, drawing attention to OFT and CC precedents.<sup>3</sup>
- 1.18 The CC has failed to properly take into account HCA's evidence, and its dismissal of the strength of the evidence HCA has provided is inadequate and based on factual inaccuracies. As noted in section 5 of the main text of HCA's response to the PDR, HCA has provided the CC with significant evidence of the quality of the private healthcare it offers to patients. Further information is also set out in that section.
- 1.19 The rest of this section begins by discussing the CC's failure to articulate a clear explanation, supported by economic theory, of why it believes divestment will result in an increase in quality and incentives to innovate. HCA then sets out, first in relation to the quality of its private healthcare offering, and then in relation to its strong track record on innovation, the evidence which directly contradicts the CC's stated view, and HCA's comments on the CC's basis for dismissing this evidence.

---

<sup>3</sup> For example, see HCA's Response to the CC's Issues Statement, Page 25

***The CC has not provided a robust economic argument for its conclusion that divestment will increase quality or innovation in private healthcare in London***

- 1.20 The CC states that it expects “that an increase in rivalry resulting from divestiture to a suitable purchaser or purchasers in a relevant area would result in increased competition on quality (not just on price) and an improvement in the quality of hospital services over time.”<sup>4</sup>
- 1.21 The CC has also provisionally concluded that its divestment remedy will “provide a further stimulus to innovation.”<sup>5</sup>
- 1.22 In any inquiry, for such statements to be made, the CC must provide a compelling and coherent explanation, supported by robust evidence and economic theory, of why the remedies it is proposing will lead to an increase in quality and innovation. In the case of private healthcare, where, as HCA has highlighted in a number of submissions to the CC,<sup>6</sup> quality and innovation are key parameters of competition, this is particularly important. Indeed, the CC’s patient survey, used as a tool towards the beginning of its inquiry, highlighted the importance of quality to patients.
- 1.23 However, the CC has not provided any such coherent explanation. It has not coherently set out its expectation of how the market, and in particular quality and innovation can be expected to develop post-divestment. The CC acknowledges that it is uncertain of the strategy of the new owner(s) in terms of quality of care and level of acuity of treatment<sup>7</sup>. However, the CC provisionally concludes that although the new owner(s) might adopt a different strategy to HCA, “the new competitive dynamics in London would ensure that patients’ needs would be adequately met.”<sup>8</sup> HCA queries how the CC can conclude that ‘new competitive dynamics’ will ensure patients needs are met (or indeed that quality and innovation will increase) when it has provided no clear economic evidence for how competitive dynamics work in relation to quality and innovation.
- 1.24 The CC has not shown that private healthcare provision, in particular in London, is currently characterised by sub-optimal levels of quality or innovation. Indeed, the provisional AEC finding does not identify any detriment to customers in the form of reduced quality or innovation arising from the structural features the CC provisionally identified. As set out in more detail in the next sub-sections, there is strong evidence on the high quality of HCA’s private healthcare provision and on HCA’s record on innovation, which undermines any suggestion that there is a detriment to patient quality arising from the features the CC has identified.
- 1.25 In fact, economic theory shows that no simple inference can be drawn between a reduction in market concentration and an increase in quality and innovation. Increases in key aspects of the quality of private healthcare require investment as does developing and adopting innovative techniques and treatments. It is well known that market structure is not a driver of competition in markets where investments in quality or innovation are important parameters of competition. As a result, there is no simple direct link between the number of competitors in a market and the level of quality or innovation that occurs in that market. Furthermore, as HCA discusses in detail in paragraphs 1.68 to 1.100 below there are negative impacts on quality of care and

---

<sup>4</sup> Paragraph 2.156 of the CC’s Provisional Decision on Remedies

<sup>5</sup> Paragraph 116 of Appendix 2.1 of the Provisional Decision on Remedies

<sup>6</sup> For example, paragraphs 2.4 to 2.5 of HCA’s response to the CC’s Provisional Findings and point 3, section 6 of HCA’s response to the CC’s Annotated Issues Statement

<sup>7</sup> Paragraph 2.110 of the CC’s Provisional Decision on Remedies

<sup>8</sup> Paragraph 2.110 of the Provisional Decision on Remedies

investment that will immediately result from the proposed divestment, which the CC should also take into account.

- 1.26 Rather, in such markets, market structure is an outcome of the competitive process and in particular of firms' investment strategies. In markets where innovation is important, higher competitive intensity can be associated with a greater level of concentration in the market.
- 1.27 Further, economics literature indicates that the link between competitive intensity and the level of investment is not a direct one. In industries with high R&D intensity, market demand, submarket homogeneity, and technological opportunity all drive R&D spending, and in R&D intensive industries this also drives market structure.<sup>9</sup> In these industries, high concentration is not necessarily a sign of lower competitive intensity, much less a cause of it. From an empirical perspective, the seminal paper by Aghion *et al* finds an inverted-U shaped relationship between the number of firms in a market and the level of innovation.<sup>10</sup> In summary, therefore, what can clearly be drawn from the economic literature is that there is no support for a direct correlation between the number of independent firms operating in an area, their market share, or the level of competitive intensity and the level of innovation (and therefore quality) that can be expected. Therefore, there is no support for the CC's assertion that simply by increasing the number of firms, and/or reducing market share, the CC's proposed divestment would be expected to increase innovation and quality.
- 1.28 The CC's failure to provide a robust economic argument on the relationship between concentration and quality and investment fundamentally undermines its conclusion that structural features give rise to an AEC. In fact, as HCA has shown in its submissions, there are clear risks that the level of quality will significantly drop if the market structure were to be artificially altered through a forced divestment.
- 1.29 It is clearly not sufficient for the CC simply to infer that there would automatically be an increase in quality and innovation from having more market players as a result of its divestiture package. To support its current conclusions, the CC needs to present a clear and cogent model of competition on innovation in London, identify how the current structure is providing less than optimal outcomes and clearly explain, with evidence, how a divestment would improve outcomes in the market. If it does not, the CC must attach a positive probability to there being a significant decrease in investment in innovation and quality (and hence a worsening of patient outcomes) in its cost benefit assessment and fully consider this potential cost while making its decision on proportionality.

***Extensive evidence on the quality of HCA's offering directly contradicts the CC's view***

- 1.30 The CC has failed to show that the structural features it has provisionally identified, and which it aims to remedy, in part, through its divestiture package, give rise to any customer detriment in the form of reduced patient quality in London.
- 1.31 Instead, there is extensive evidence that HCA provides high quality services and has the capabilities to treat the highest acuity patients. HCA has also submitted further evidence that its quality is not only high, but also, where information is available, that HCA's quality is higher

---

<sup>9</sup> See Sutton, John (2001), *Technology and Market Structure: Theory and History*, MIT Press. For further literature, see Hall, Bronwyn H., and Rosenberg, Nathan (2010), *Handbook of The Economics of Innovation*, North-Holland

<sup>10</sup> See Aghion *et al* (2005), *Competition and Innovation: an Inverted-U Relationship*, *Quarterly Journal of Economics* 120.2 701-28.

than that of its competitors, according to a range of metrics.<sup>11</sup> Furthermore, there is extensive evidence that HCA is pursuing strategies and levels of investment that deliver the highest quality outcomes. Throughout the inquiry HCA has submitted substantial evidence to the CC in relation to its record of innovation and investment, including examples of investments and innovations that demonstrate its commitment to remaining ahead of its competitors in London and overseas.<sup>12</sup>

1.32 Indeed, the quality of HCA's offering and its strategy to invest in market leading quality and innovation is well recognised, including by the CC. In the PDR, the CC stated that:

*"the evidence we [the CC] have seen indicated that HCA did provide good quality healthcare services, certainly in the three areas on which it submitted case studies".<sup>13</sup>*

*"there was a reasonable level of evidence that HCA provided good quality and high acuity services and that it had introduced a range of new treatments into the private market in London."<sup>14</sup>*

*"in central London HCA and its competitors have generally sought to pursue a high-acuity, high-quality strategy"<sup>15</sup>*

*"We [the CC] accept that HCA has demonstrated that it had been willing and able to adopt new techniques or technologies."<sup>16</sup>*

*"there was a reasonable level of evidence that HCA ... had introduced a range of new treatments into the private market in London."<sup>17</sup>*

1.33 Through the course of the inquiry, the CC has also received views from consultants and insurers that corroborate HCA's evidence on the quality of its outcomes and its strategy to bring new treatments to the private healthcare market in London:

- AXA PPP informed the CC that *"new technology will tend to be introduced in London before other locations".<sup>18</sup>*
- AXA PPP also told the CC that LOC is a *"leading team of 50 world class consultants and specialists in all aspects of oncology".<sup>19</sup>*
- AXA PPP also noted that hospitals in London could instead be split between 'elite' and 'non-elite' hospitals, elite hospitals being those that provided the strongest professional reputation for a broad range of treatments. It stated that HCA owns 6 of these 7 elite hospitals.<sup>20</sup>
- Spire noted that HCA has *"highly-skilled clinical teams".<sup>21</sup>*

---

<sup>11</sup> For example, see pages 19-20 of Annex of HCA's response to the CC's Remedies Notice

<sup>12</sup> See Appendix 6 and Appendix 7 of HCA's response to the CC's Provisional Findings

<sup>13</sup> Paragraph 2.114 of the CC's Provisional Decision on Remedies

<sup>14</sup> Paragraph 2.171 of the CC's Provisional Decision on Remedies

<sup>15</sup> Paragraph 2.110 of the CC's Provisional Decision on Remedies

<sup>16</sup> Paragraph 115 of Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>17</sup> Paragraph 2.171 of the CC's Provisional Decision on Remedies

<sup>18</sup> Page 4 of AXA PPP's response to the CC's Annotated Issues Statement

<sup>19</sup> Paragraph 2.32, AXA PPP's Response to the CC's Provisional Findings

<sup>20</sup> Paragraph 2.12, AXA PPP's Response to the CC's Provisional Findings

<sup>21</sup> Paragraph 18 of Spire Healthcare's Remedies Hearing Summary

- One party noted that “HCA had excellent quality hospitals which operated a high level of complexity”.<sup>22</sup>
- A number of employers noted HCA hospitals’ reputation for high-quality healthcare.<sup>23</sup>

1.34 Overall, therefore, there is strong evidence that the current market structure provides strong incentives for all players to compete. HCA, far from being insulated from competitive pressures by virtue of its market share (as the CC contends), is in fact the hospital operator with the [X] amongst the national chains (as set out in paragraphs 1.46 to 1.47 below in more detail). This is simply inconsistent with the CC’s view that there is a problem with competition that can be improved through divestments.

1.35 Even if the CC disagreed with the wealth of evidence presented, there is at the very least a strong prima facie evidence that HCA’s quality is high and that competition is driving it. For the CC to be able to reach a different view the CC would have to conduct its own assessment of quality and innovation, not just in terms of the link between innovation and market structure (as discussed above) but also in terms of the outcomes generated in the market.

1.36 Without this full assessment, the CC is simply in no position to conclude that there will be any benefit in terms of quality from the divestment. Indeed, the CC itself notes that “a new owner or owners, like existing operators in central London, would be likely to adopt a similar strategy to HCA’s”<sup>24</sup>, which does not suggest that quality will increase post divestment. Instead, the CC must take into account the clear risk of detriment to quality arising from divestment. A failure to do so would amount to not having considered at all a major element of economic costs (and indeed cost to patients) flowing from the suggested remedy. The next two sub-sections discuss the CC’s dismissal of, first, HCA’s evidence on the quality of its outcomes, and second, HCA’s evidence on its strategy of investment and innovation to achieve high quality outcomes.

*The CC has incorrectly dismissed the evidence on the quality of HCA’s outcomes*

1.37 If the CC is to draw any conclusion that contradicts the above evidence on the high quality of HCA’s private healthcare provision, it is incumbent on the CC to properly conduct its own analysis of HCA’s quality relative to that of its competitors. The CC has largely dismissed HCA’s evidence on, and analysis of, its quality in comparison to its competitors. The CC cites concerns over the information’s reliability<sup>25</sup> and completeness<sup>26</sup> as a basis for disregarding the benchmarking analysis HCA has provided. HCA provided as much information as possible on the quality of its offering compared to its competitors, but is naturally hampered by a lack of detailed information on its competitors, in particular in the private sector. By contrast, through this inquiry the CC has been in a position to request more reliable and more complete information from HCA’s competitors to facilitate a full analysis of quality across different private healthcare providers. The CC has, however, failed to do this, despite itself recognising the importance of such information in the context, for example, of its price concentration analysis<sup>27</sup>.

---

<sup>22</sup> Paragraph 53, Appendix 6.10, Annex A of the CC’s Provisional Decision on Remedies

<sup>23</sup> Paragraph 40, Appendix F of the CC’s Annotated Issues Statement

<sup>24</sup> Paragraph 2.117 of the CC’s Provisional Decision on Remedies

<sup>25</sup> Paragraphs 110 and 111 of Appendix 2.1 of the CC’s Provisional Decision on Remedies. In fact, HCA disputes the accuracy of many of the CC’s concerns about the information it has submitted in relation to the quality of its private healthcare, as set out later in this response.

<sup>26</sup> The CC argues that benchmarking only in relation to the private sector is uninformative (paragraph 108 of Appendix 2.1 of the Provisional Decision on Remedies) or noting that HCA’s benchmarking is against only a subset of private sector competitors (paragraph 111 of Appendix 2.1 of the Provisional Decision on Remedies).

<sup>27</sup> Paragraph 33 (b) and (f) of Appendix 9 of the CC’s Provisional Findings

1.38 It is simply inadequate for the CC to dismiss evidence on HCA's quality on the basis that the information HCA had available to it was unreliable or incomplete, when the CC had an opportunity to gather more complete, reliable information. Having failed to conduct its own analysis, despite the numerous submissions HCA has made in relation to the importance of quality, the CC cannot dismiss the strong prima facie evidence on HCA's quality.

1.39 In fact, the CC's objections on the reliability of certain pieces of evidence provided by HCA are misplaced. HCA sets out in full its concerns with a number of the CC's statements in relation to quality in section 5 of the main text of HCA's response to the PDR. A few key examples are also summarised below:

i) The CC dismissed the information about quality provided by evidence on the number of RMOs employed by HCA, stating that *"HCA cited the fact that it employed more RMOs than other private hospital operators. Again, since HCA operated more ITUs than any other private hospital company in central London, we did not find this comparison informative."*<sup>28</sup> However, the CC's dismissal of this evidence is unfounded. RMOs are present at all HCA facilities. Many of HCA's RMOs are specialist rather than generalist, in order to provide the highest level of expert care to patients. It employs [redacted] full time on-site RMOs, providing instant, 'round-the-clock' care. HCA employs this strategy in order to increase quality and maintain continuity to the benefit of overall patient welfare<sup>29</sup>. HCA estimates that when adjusted on a per-admission basis, HCA has [redacted] RMOs per admission than the London Clinic, which increases HCA's relative costs. Furthermore, HCA considers that the CC cannot dismiss its evidence on the basis of HCA operating more extensive ITU facilities. In fact the CC should recognise that the presence of ITUs in a hospital raises the quality of care available to all patients and HCA's higher ratio of ITUs per patient than other providers is itself a signal of its higher quality private healthcare provision.

ii) HCA also provided the CC with its ratio of nurses to patients, which is approximately [redacted] compared to 0.25 at TLC. The CC, however, stated that this comparison was uninformative and noted that *"the claimed patient/nurse ratio at TLC is HCA's assessment"*<sup>30</sup>. This is not the case. The ratio for TLC is taken from the TLC's website, as HCA noted when it submitted the evidence.<sup>31</sup> The CC also suggests that the fact that HCA has a paediatric ITU, which TLC does not, might render the comparison uninformative. In fact, there is only a very small number of paediatric ITU beds and so HCA does not consider this to materially affect its overall nurse to patient ratio which was not measured over particular ITUs or service lines.

iii) The CC points to only a few, sparse examples where it considers HCA does not demonstrate a higher quality, for example noting that *"King Edward VII hospital, a private sector competitor, claims never to have had a case of hospital-acquired MRSA"*<sup>32</sup>. In fact, between 2009/10 and 2012/13, the King Edward VII had one case of MRSA across 45,116 bed days (2.2 cases per 100,000 days) compared with HCA's seven cases across 498,425 bed days (1.4 cases per 100,000 days). Furthermore, as HCA sets out in section 5 of the main text of its response to the PDR, it provided these statistics to the CC as they are an example of where statistics are publicly available – therefore it is not the sole measure of quality that should be considered. The evidence needs to be considered in the round and HCA considers that the fact

---

<sup>28</sup> Paragraph 123, Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>29</sup> Paragraph 4.104, Appendix 4 of HCA's response to the CC's Provisional Findings

<sup>30</sup> Paragraph 123, Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>31</sup> Paragraph 4.104, Appendix 4 of HCA's response to the CC's Provisional Findings

<sup>32</sup> Paragraph 110, Appendix 2.1 of the CC's Provisional Decision on Remedies

that it is the only private provider to publish performance data against a wide range of quality metrics is indicative of its focus on quality compared to its competitors.

*The CC has incorrectly dismissed the evidence on HCA's strategy of investment and innovation*

- 1.40 The CC has not considered fully the evidence on innovation and has not appreciated the leading role of HCA in this aspect of competition in London. HCA has transformed the way in which private healthcare was provided in London and in particular at the hospitals that the CC is looking to force a divestment of. This level of investment is both a sign of competitive intensity in the London market, a marker of HCA's unique role in advancing private healthcare and in direct contradiction with the CC's assessment of the cost and benefits of divestment. In the rest of this section we set out some of the key elements of this evidence and correct the CC's assessment of it.
- 1.41 The CC notes that HCA's innovations have in some cases been in response to innovations made by its competitors<sup>33</sup>. HCA is pleased that the CC recognises this, and indeed HCA had submitted this evidence precisely to point this out. This provides strong evidence that competition is working well in driving investment and innovation in London. The CC, however, appears to suggest that this evidence of HCA reacting to innovations by its competitors in some way decreases the strength of the evidence on HCA's innovation and investment record, or contradicts HCA's statements that it is market leading in terms of innovation. HCA submits that the CC has no basis for any such suggestion.
- 1.42 As set out above and in numerous submissions, and as acknowledged by the CC<sup>34</sup>, HCA's strategy is to be the market leader in relation to quality and innovation. The fact that in some instances HCA has also innovated in order to respond to investments or innovations by its competitors is a manifestation of this strategy and entirely consistent with HCA succeeding. Medical care is highly differentiated in terms of how it is provided. Different operators will have different views of what type of investment is highest priority and it is normal for hospital operators to adopt technologies or procedures after a competitor has introduced them. The question is whether *overall* when considering the breadth of the investment and innovation record, a given operator (in this case HCA) has a better track record.
- 1.43 HCA has provided the CC with numerous examples of where HCA has been the first to introduce high quality, innovative treatments, ahead of the NHS and other private competitors. This has included several examples of 'organic' innovations, whereby HCA was involved in the development of the treatment and/or practice from origin to completion<sup>35</sup>. The CC has however failed to refer to these numerous examples in drawing its conclusion on investment and hence has overlooked the fact that the likely impact of divestment is actually for this record not to be matched by the future owner(s) of the divested hospitals and therefore for quality of care to patients to fall.
- 1.44 This evidence again confirms that incentives to invest in London are the highest in the UK. If they were really dependent on local market structure (as the CC's PFs and PDR assume) one would expect the level of investment to be lower in London compared to those locations where concentration is lower. However this is not the case, as set out in paragraph 1.47 below.

---

<sup>33</sup> Paragraph 115, Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>34</sup> Paragraph 2.110 of the CC's Provisional Decision on Remedies

<sup>35</sup> For example, see pages 2-3 of Annex 2 of HCA's response to the CC's Provisional Findings

1.45 The CC raises a number of other objections to HCA's evidence on its record on innovation, which it uses to support its view that incentives to innovate will be increased as a result of its divestment remedy. HCA submits however that the CC's objections are misplaced:

*i) The CC notes "a large proportion of the innovations cited by HCA were concentrated in cancer care"<sup>36</sup>. Whilst HCA is proud of its position in oncology and dedication to increasing the welfare of its cancer patients, it notes that the innovations provided to the CC in Response to the PFs<sup>37</sup> reach far wider than this specialism. Indeed, of the list of 117 treatments and processes that HCA has been first to bring to the UK private healthcare market 39 related specifically to cancer, 20 to cardiac treatment, 2 to cardiac tumours and 56 to other specialties or all specialties. In any event HCA suggests that the CC is in a position to, and should, conduct a more detailed assessment of innovation if it considers this evidence not to be sufficient.*

*ii) The CC notes that HCA's innovations "concerned drug trials that any hospital can participate in, the trial drugs in question being provided free by the relevant pharmaceutical company"<sup>38</sup>. HCA has illustrated across numerous submissions the ways in which it has invested in the development of medicine outside of these trials. The CC does not appear to have taken account of this evidence. A notable omission is HCA's ownership and continued investment in the Sarah Cannon Research Institute UK ('SCRUK'), the UK's first private clinical trials clinic. As previously noted<sup>39</sup>, HCA redeveloped and upgraded 93 Harley Street to launch SCRUK in 2010 at a cost of [X]. The facility undertakes specific molecular testing to better understand cancers within patients, in addition to offering clinical trials. In April 2013, HCA announced collaboration with UCL to provide molecular profiling of tumours, on top of its current research. In FY2011 the facility made a [X]. As discussed in section 5 of the main text of HCA's response to the PDR, HCA has invested heavily in creating and developing the SCRUK. As one of the largest clinical research programmes in the world, SCRUK is often selected to run trials which would not otherwise come to the UK. For example, SCRUK is running the AZ5363 phase 1B trial for prostate cancer. No other private provider offers this service and no other UK private hospital pursues research and development programmes. Although the pharma company provides the drugs, the SCRUK carries out the research and runs the clinical trials. HCA can therefore justly claim that this is a significant innovation within the UK private sector.*

*iii) The CC goes on to state that "some examples of innovation....were difficult to characterize as innovation". These examples cited by the CC relate to the adoption of commercially available software such as Mosaiq. It would not be cost efficient for HCA to develop software solutions such as Mosaiq in house, and so HCA purchased this software, which delivers real benefits to its patients. This does not imply that HCA is not an early adopter of such tools, increasing their usage in UK private healthcare provision. As set out in section 5 of the main text of HCA's response to the PDR, HCA has been recognised by the developers of this software and worked with them to co-produce various editions, acting as a user-developer. The LOC is recognised as the most sophisticated user and leads the field in improving the established product. Adoption and adaptation of such technology is therefore a further example of how HCA invests in innovative tools, ultimately resulting in improved patient outcomes.*

---

<sup>36</sup> Paragraph 115 of Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>37</sup> See Appendix 6 of HCA's response to the CC's Provisional Findings

<sup>38</sup> Paragraph 115 of Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>39</sup> Page 22 of HCA's Response to Provisional Findings

- 1.46 In its response to the PFs, HCA outlined its capex as a percentage of revenue compared with other networked operators.<sup>40</sup>

**Figure 1:** HCA's capex as a percentage of its revenue, 2008-2011<sup>41</sup>:

[REDACTED]

**Figure 2:** Capex as a percentage of revenue, private healthcare operators<sup>42</sup>:

[REDACTED]

- 1.47 Figure 1 above shows that HCA increased its capex as a proportion of revenue over time - a further illustration of the strength of competition for both UK and overseas patients. Importantly, however, HCA has also invested [REDACTED], as shown in **Figure 2**. The CC has failed to refer to this evidence in its assessment of the impact of remedies on innovation, in the PDR. Given that international providers could potentially also purchase HCA's facilities, HCA has also examined the capex as a proportion of revenue for these other potential acquirers. HCA has invested [REDACTED], as shown in **Figure 2**. HCA would also point out that it invested [REDACTED] than both Spire and Nuffield Health, both of which have been judged by the CC to be operating predominantly in local markets where no divestment remedies are required. The CC has not provided any way of reconciling this evidence on investment with its theory that HCA's market share insulates it from competitive pressures. HCA considers that this further undermines the CC's assertion that its divestment remedy will lead to any increase in investment or innovation.
- 1.48 Overall, therefore, the evidence submitted by HCA shows that it has a strong track record in relation to innovation, and is a market leader in introducing new and innovative treatments and technologies to London. The CC's dismissal of this extensive evidence is unfounded, based on a failure to properly take into account the full weight of the evidence and in some cases factually inaccurate objections to the evidence HCA provided.
- 1.49 There is no evidence therefore that the structural features that the CC has provisionally identified give rise to incentives to innovate that are below those that would be present in a well-functioning market. As a result, the CC has no basis for its conclusion that its divestment remedy will increase incentives to innovate and must account instead for the real risk that an acquirer of the divested hospitals would not follow the same pace of investment set by the company that so far has been the market leader in this regard.

### Expected price benefits of divestment have been significantly overstated by the CC

- 1.50 The CC estimated that the proposed HCA divestments would generate price benefits of between £9.5m and £29.5m p.a.<sup>43</sup> HCA submits that the CC's assessment of price benefits cannot be relied upon. In particular, HCA submits that the CC's methodology for estimating these benefits (i) is not robust; and (ii) is inconsistent with the other elements of the CC's analysis in this inquiry. In addition, even setting aside these concerns over the CC's methodology, there are errors in the CC's analysis. Once some of the most significant errors by the CC are corrected, an application of the CC's own (incorrect) methodology shows that the CC has vastly overestimated price benefits arising from the proposed HCA divestments. In

---

<sup>40</sup> Paragraph 3.41 of HCA's response to the CC's Provisional Findings

<sup>41</sup> [REDACTED]

<sup>42</sup> [REDACTED]

<sup>43</sup> Paragraphs 14 and 16 of Appendix 2.5 of the CC's Provisional Decision on Remedies

Appendix 1 to this Annex, HCA provides a detailed critique of the CC's assessment of the price benefits from the divestments. HCA summarises the key issues in the rest of this section.

- 1.51 The CC's assessment of the alleged price benefits from the proposed HCA divestitures rests on two analyses - the price-concentration analysis (PCA) and the insured price analysis (IPA). HCA submitted a detailed critique of the PCA<sup>44</sup> and a detailed critique of the IPA<sup>45</sup>, both of which drew on analysis conducted in the CC's dataroom by HCA's economic advisers. However, the CC has not engaged with any of the issues raised by HCA in this regard (nor with the concerns expressed by other parties), explaining that it would do so in its Final Report.<sup>46</sup> This is a serious omission by the CC at this stage of the inquiry. To the extent that the CC intends to modify its analysis further before issuing its final report, the CC has not allowed HCA and other parties to engage appropriately with such a crucial element of the CC's decision.
- 1.52 As HCA has highlighted to the CC, both its IPA and PCA are severely flawed from a methodological perspective. Overall, they do not support the CC's assertion that there are weak competitive constraints in central London that allow HCA to charge higher prices to either insured or self-pay patients. The rest of this section summarises HCA's overall concerns with the methodology the CC has used in the PCA and the IPA in turn, which in its view should prevent these analyses from being relied upon to calculate the benefits arising from the CC's divestment remedy. Setting aside these concerns, HCA then sets out what it considers would be a more appropriate calculation of the benefits from the divestment remedy, even on the basis of the CC's methodology, once major errors in the CC's calculation are corrected.

#### *The PCA methodology is fundamentally flawed*

- 1.53 HCA considers that the PCA analysis does not have any relevance to London or to HCA. For example, 55% of invoices in London were missing and so omitted from the PCA; the price data used by the CC failed to include a number of HCA's closest competitors in central London; and the focal treatments used in the CC's analysis account for only a very small proportion of HCA's self-pay in-patient episodes<sup>47</sup>. As such, it cannot inform the analysis of price benefits that the CC estimated in the case of the proposed HCA divestments in central London.
- 1.54 More broadly, the CC's PCA has not identified a robust, causal relationship between local market concentration and self pay prices:
- when Nuffield Health's episodes are excluded the PCA no longer displays a statistically significant relationship between LOCI and self pay prices under the CC's preferred specification;
  - the use of LOCI is inappropriate as it is an untested and flawed measure, based on the logit model which has attracted significant criticism, and which hasn't been validated by academic research or significantly used by Competition Authorities;
  - the analysis fails to sufficiently control for key joint determinants of prices and concentration, such as quality, case complexity and costs; and

---

<sup>44</sup> Appendix 2 to HCA's Response to Provisional Findings. See also HCA's Response to CC's Annotated Issues Statement; and HCA's Response to CC in relation to Data Room exercise and the CC's Working Paper: Price concentration analysis for self-pay patients.

<sup>45</sup> Appendix 4 to HCA's Response to Provisional Findings

<sup>46</sup> Paragraph 2.8 of the CC's Provisional Decision on Remedies

<sup>47</sup> Specifically, the four focal treatments used in the CC's analysis account for [X] per cent of HCA's UK Self-pay inpatient episodes ([X] per cent of revenues).

- the results are not robust under different specifications.

***The IPA methodology is fundamentally flawed***

- 1.55 HCA considers that the CC's IPA does not show that HCA charges significantly higher prices to PMIs than its competitors as a result of its market power. In particular, the CC analysed average episode charges rather than prices and its analysis failed to control for a number of important factors which affect prices. HCA, on average, deals with more complex, high acuity patients which leads to higher episode charges. The CC's analysis relied on average episode charges, which are significantly affected by patient-specific factors and clinical requirements which impact prices and which the CC did not control for.
- 1.56 Elsewhere in the PDR, the CC appears to recognise the importance of controlling for patient-specific factors and clinical requirements, in relation to analysis of patient outcomes. Specifically, in dismissing HCA's evidence on breast cancer survival rates, the CC quotes AXA PPP's view that breast cancer survival rates *"will be affected by many factors including the age of the patients, their social class and the stage of presentation. Attempting to draw inferences on the quality of care provided from survival rates could be highly misleading unless all of these factors could be controlled for"*<sup>48</sup>. However, HCA notes that for exactly the same reasons, controls are required in order to control for factors affecting the observed price of treatment. If patient outcomes are affected by patient-specific factors, then they must also drive the type of treatment that a patient receives, which will also have a significant impact on prices. It is therefore inconsistent for the CC to dismiss evidence provided by HCA on the basis that it fails to control for patient-specific outcomes, while at the same time relying on the IPA which is plagued by the same methodological flaws.
- 1.57 In addition, the CC's IPA failed to control for other factors affecting costs, (and hence prices) such as quality and tax status. This is likely to overstate the price indices calculated for HCA.
- 1.58 In any case, the CC's IPA did not show that HCA's prices are statistically significantly higher than TLC's or higher than another competitors based in central London, regardless of driving factors:
- HCA's episode charges are not statistically significantly higher than TLC's for Bupa patients;
  - on a CCSD by CCSD basis, in a large number of cases, HCA's prices were not statistically significantly different from TLC's for either AXA PPP or Bupa (and in some case TLC's charges were statistically significantly higher);
  - [REDACTED]; and
  - Finally, HCA notes that variability in the index over time, across different hospitals and different PMIs means that the results cannot be informative of relative bargaining power.
- 1.59 The IPA is also not robust due to other methodological and data flaws, including the baskets of treatments analysed being unrepresentative of HCA's overall business.
- 1.60 For the reasons summarised above HCA strongly contends that the IPA and PCA are an inadequate basis for the CC's provisional conclusion on the existence of, and customer detriment arising from, an AEC (in particular in central London). Such analyses are therefore

---

<sup>48</sup> Paragraph 109, Appendix 2.1 of the CC's Provisional Decision on Remedies

also inadequate as a justification for imposing very intrusive remedies onto HCA. HCA therefore submits that the IPA and the PCA cannot be used to provide reliable evidence on the proportionality of the CC proposed divestiture of the London Bridge and Princess Grace hospitals.

1.61 However, even if the CC were to consider that these analyses could be used to inform the assessment of the price benefits of divestiture, HCA considers that the CC has vastly overestimated such price benefits due to inappropriate assumptions in its calculations. In its estimation of the price benefits from the proposed divestment under some scenarios the CC incorrectly applied results from its analysis of self-pay patient pricing to insured patients and in other scenarios applied its insured pricing results to self-pay patient prices. This is totally inconsistent with the CC's assessment in this inquiry of the different nature of competition for self-pay and insured patients. The CC, when estimating the price benefits, also incorrectly applied the results of the PCA to international patients, as well as to day-case patients and outpatients, without any robust justification or evidence. Likewise, it incorrectly applied the results of its IPA to outpatients, without any robust justification or evidence. By doing so the CC inappropriately asserted there would be price benefits for HCA's:

- International patients, which account for approximately [X] per cent of HCA's revenues
- Self-pay and insured outpatients, which account for approximately [X] per cent of HCA's revenues
- Self-pay day-patients, which account for approximately [X] per cent of HCA's revenues

1.62 Correcting for these inappropriate assumptions in the CC's estimation, the estimated price benefits from the proposed HCA divestments are around £0.98m per year (so the CC overestimated these benefits by a factor of nearly 10), if using the CC's approach based on the PCA. If using the CC's approach based on the IPA, HCA submits that there would be no price benefits at all, since the CC has failed to show a statistically significant difference between HCA's episode charges and those of the TLC and since the variation in the charges observed is directly in contradiction with HCA's concentration driving any such differences.

1.63 HCA also addresses the issue of PMI cost pass-through in section 6 of the main text of HCA's response to the PDR which is relevant to the consideration of the extent to which policyholders would benefit, if at all, if there were to be any price benefits of divestiture.

## **COSTS OF DIVESTMENT**

1.64 As set out in its Guidelines for Market Investigations (the Guidelines), as well as considering how comprehensively its proposed remedies will address the AEC and/or its detrimental effects, the CC may also have regard to any Relevant Customer Benefits (RCBs) of the market feature(s) giving rise to the AEC. Furthermore, if the remedies the CC proposes lead to a loss of RCBs, the amount of RCBs foregone may be considered to be a relevant cost of the remedy.<sup>49</sup>

1.65 HCA is firmly of the view that the CC has inappropriately dismissed RCBs, leading to an underestimation of costs of divestment. HCA submits that it has already presented

---

<sup>49</sup> CC3, paragraph 352 (c).

considerable evidence in relation to these issues, which it considers that the CC has failed to take properly into account.

1.66 HCA considers there will be severe negative impacts on quality, investment and innovation that will arise from the proposed divestitures, all of which constitutes a relevant cost of the CC's remedies that the CC must take into account. In addition, the divestment will lead to a loss of economies of scale, which also amounts to a loss of RCBs, and therefore a relevant cost of the CC's divestiture remedies.

1.67 In the rest of this section HCA:

- First, sets out why divestment of two of HCA's facilities is likely to lead to a reduction in quality at HCA's remaining facilities and at the divested hospitals, and explains why the CC is incorrect to have dismissed the evidence HCA provided in this regard.
- Second, sets out why the HCA divestments will reduce the ability and incentives to invest in quality and innovation, and explains why the CC is incorrect to have dismissed the evidence HCA provided in this regard.
- Third, sets out why the CC's analysis of HCA's evidence on economies of scale is incorrect and why this means that the CC has underestimated the loss of economies of scale that arise as a result of the divestment remedy.

#### **The quality of private healthcare provision in London will be reduced as a result of the proposed divestitures**

1.68 HCA has provided extensive evidence on the likely reductions in quality that will arise as a result of the requirement to divest two of its private healthcare facilities in London.<sup>50</sup> It also comments on this further in section 6 of the main text of its response to the PDR. In the rest of this section, HCA discusses first, the likely impact of divestment on quality at the divested facilities and second, on the quality of HCA's remaining hospitals post-divestment.

#### **Quality is likely to decline at the Princess Grace and London Bridge hospitals post-divestment**

1.69 HCA has already set out in paragraphs 1.31 to 1.34 and 1.37 to 1.39 above the evidence on its high quality of care, including in comparison to its competitors. HCA contends that this evidence suggests that there is a real risk that a new owner of the Princess Grace and London Bridge Hospitals may not pursue the same strategy of high quality, high acuity care.

1.70 The CC stated that "*suitable purchasers for these hospital assets are likely to have both the ability and incentives to pursue a strategy that does not disadvantage private patients in terms of either the quality or the range of medical services provided.*"<sup>51</sup> Similarly, the CC notes that "*a new owner or owners, like existing operators in central London, would be likely to adopt a similar strategy to HCA's.*"<sup>52</sup>

1.71 The CC's reasoning for concluding that any purchaser of HCA's divested assets will pursue a similarly high quality strategy to HCA is based, in part, on the CC's dismissal of HCA's evidence on the high quality of its offering in comparison to its competitors. As set out in paragraphs 1.30 to 1.49 above, this is inconsistent with the large body of evidence on HCA's position as a

---

<sup>50</sup> See Table 1 of HCA's submission on cost of remedies dated 18 December 2013

<sup>51</sup> Paragraph 2.109 of the CC's Provisional Decision on Remedies

<sup>52</sup> Paragraph 2.117 of the CC's Provisional Decision on Remedies

market leader in terms of quality, investment and innovation. Without taking the opportunity to gather its own comprehensive information on the quality of HCA's and its competitors' private healthcare provision, the CC is in no position to dismiss this evidence.

- 1.72 HCA also submits that there is a substantial risk that quality will be reduced as a result of the CC's divestment remedy since HCA's ability to offer integrated patient pathways will be reduced, as discussed in the following sub-section.
- 1.73 More generally, as set out in paragraphs 1.20 to 1.29 above, without a coherent economic explanation of how the CC expects competitive dynamics and the provision of quality to evolve post-divestment, the CC is in no position to dismiss concerns that divestments will lead to reductions in policy. The CC's statement that "*new competitive dynamics in London would ensure that patients' needs would be adequately met*"<sup>53</sup> is inadequate as a basis for dismissing serious concerns about the post-divestment quality of care provided at HCA's divested facilities.

#### **Quality is likely to decline post-divestment at HCA's remaining facilities**

- 1.74 In previous submissions to the CC, HCA highlighted that patient quality at HCA's facilities is driven in part by the tight network operated by HCA, the integrated care that this enables and the investment in specialist services that HCA's network allows. HCA has submitted that divestment of two of its facilities will put at risk all of these aspects of quality of patient care. HCA's concerns in this respect are also set out in the main body of this response.
- 1.75 In the next section, HCA discusses the impact of divestment on the ability to invest. In the rest of this section, HCA discusses the CC's treatment of the evidence it provided in relation to integrated care.
- 1.76 The CC incorrectly dismisses HCA's view on the benefits of patient pathways, stating that the CC "*thought they applied mainly to cancer treatment, and even then only to a limited range of hospitals ... to the extent that (they) would be disrupted the effects could be mitigated*"<sup>54</sup>. As highlighted by HCA in section 5 of the main text of its response to the PDR, it has developed integrated care pathways across multiple inpatient and outpatient facilities in relation to cancer care. However, there are similarly well-developed care pathways in other clinical services such as neuro-surgery, cardiac care, and orthopaedic care. These care pathways have a number of advantages, as set out in paragraph 5.56 of the main text of HCA's response to the PDR, all focused on enabling HCA to provide the highest level of care and improve patient outcomes. The divestment of the London Bridge and Princess Grace would cause considerable disruption to patients across a range of clinical areas, including cancer care. HCA's estimates of some of the patient movements across its network are set out in paragraph 5.58 of the main text of HCA's response to the PDR.
- 1.77 The CC also stated that "*remaining within one hospital group's pathway is not necessarily an RCB*"<sup>55</sup>. HCA notes, however, that the CC has failed to take proper account of the evidence on the clinical benefits of integrated care. There is a wealth of evidence on the importance of integrated patient pathways and HCA has submitted extensive information on how this applies to its own network<sup>56</sup>. In contrast the CC has not provided any clinical views, nor, HCA would

---

<sup>53</sup> Paragraph 2.110 of the CC's Provisional Decision on Remedies

<sup>54</sup> Paragraph 130, Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>55</sup> Paragraph 132, Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>56</sup> See pages 8-11 of HCA's submission on the costs of divestment dated 18 December 2013

assume, sought any clinical input whilst making this assertion. This is not a valid basis for simply dismissing HCA's evidence on patient benefits from integrated care, and betrays a lack of understanding of how patient care is delivered that, unless corrected, is bound to undermine the whole of the CC's approach to estimating costs from the divestment. It is incumbent on the CC to explain why the studies on integrated care presented to it by HCA are not valid if it is to dismiss this as a cost of its divestment remedy.

- 1.78 HCA submits that the evidence clearly shows that the CC's divestment remedy will reduce HCA's ability to provide integrated care to its patients across the HCA network. The CC has failed to take into account the substantial cost associated with a reduction in integrated care that arises from the CC's divestment remedy in London and therefore fundamentally vitiated its own assessment.

#### **Investment and innovation in private healthcare in London will be reduced as a result of the divestment remedy**

- 1.79 HCA has submitted to the CC that its divestment remedy is likely to reduce investment and innovation in London. Specifically, HCA submitted that unless a new owner of its divested hospitals pursued the same strategy of investment in quality and innovation as has been pursued by HCA, the divestment would not create a new, high quality competitor (and even if the new owner did pursue such a strategy the price benefits the CC relied on are unlikely to materialise). Furthermore, the divestment of two hospitals is likely to reduce the ability of HCA to invest in quality and innovation post divestment. Finally, HCA also submitted that more generally, the CC's divestment remedy might have a significant chilling effect on incentives to invest in private healthcare, and potentially other industries, in the UK.

- 1.80 The CC, however, dismissed HCA's evidence and concludes that it is unlikely for levels of investment and innovation in London to decrease following divestiture.<sup>57</sup> The rest of this section responds to the CC's dismissal of each of HCA's points set out in the previous paragraph.

#### ***The new owner of the Princess Grace and London Bridge hospitals is unlikely to invest and innovate to the same extent as HCA***

- 1.81 HCA has already set out in paragraphs 1.40 to 1.49 the evidence on its strong track record on investment and innovation, and its position as a market leader, which, HCA noted, the CC has incorrectly dismissed. HCA contends that this evidence suggests that there is a real risk that a new owner of the Princess Grace and London Bridge hospitals may not invest and innovate to the same degree as HCA.

- 1.82 The CC referred to evidence submitted by HCA that it will be forced to forgo a number of planned investments following the divestiture of facilities.<sup>58</sup> As noted in its submission on the costs of divestment, HCA [REDACTED].

- 1.83 The CC has dismissed HCA's view that a new owner of its divested hospitals might not invest and innovate to the same degree as HCA. This dismissal is based on a flawed and incomplete analysis of HCA's evidence in this regard, and as set out in paragraphs 1.20 and 1.29 above, lacks a coherent economic explanation of how the CC expects competitive dynamics and the incentives to innovate to evolve post-divestment. This is an inadequate basis from which to dismiss HCA's serious concerns about the impact of divestment on investment and innovation

---

<sup>57</sup> Paragraphs 2.80 and 2.115 of the CC's Provisional Decision on Remedies

<sup>58</sup> Paragraph 22, Appendix 2.3 of the CC's Provisional Decision on Remedies

at the Princess Grace and London Bridge hospitals. The most immediate way to estimate investment levels at the divested hospitals is to compare HCA's investment record with that of the potential acquirers. Paragraph 1.46 to 1.47 above showed HCA's levels of investment have been higher than other private healthcare providers.

- 1.84 HCA also wishes to note that a significant part of its incentives to innovate and invest is driven by its strategy to attract international patients. It competes on innovation and quality with elite hospitals across the world. However, the new acquirers may not adopt this same strategy so not face the same competitive pressures to raise quality through investment and innovation.

***HCA's ability to invest at its remaining facilities will be reduced as a result of the divestment remedy***

- 1.85 As HCA outlined in its Costs of Divestment submission, and noted in paragraph 1.82 above, the reduction in HCA's scale implied by the CC's proposed divestments means that it will no longer be able to make investments in some new equipment and services. Such investments require a large patient base to make them viable, which will be lacking if HCA is forced to divest the London Bridge and Princess Grace hospitals.
- 1.86 HCA provided a list of its previous investments in quality or innovation that it would not have undertaken were its scale reduced to the extent envisaged by the CC's proposed divestiture remedy.<sup>59</sup> The CC has failed to properly take account of that evidence. Indeed, of the four examples of investments that HCA provided, the only example the CC points to is the example of Intraoperative Radiation Therapy (IORT). The CC cites AXA PPP's suggestion that mobile technology could be used to facilitate investment by private healthcare providers of a smaller scale, as evidence to contradict HCA's evidence on this particular investment.<sup>60</sup>
- 1.87 Investment in highly specialised clinical treatments, including technologies for treating breast cancer and for cardiac care, is likely to no longer be viable after HCA loses approximately [REDACTED] of its patient base following the forced divestiture of London Bridge and Princess Grace hospitals.<sup>61</sup> HCA expects that, at a minimum, it will be forced to reduce investment at the remaining facilities by [REDACTED]. The CC has failed to include these one off and ongoing costs of divestment in its NPV calculation of the overall impact of the divestment remedy. HCA discusses this NPV calculation further from paragraph 1.138 below.
- 1.88 The CC has also ignored the scale that is required to undertake certain investments. As with any investment decision, the scale of the business is important in order for the investment to be commercially viable. The HCA report on quality sets out the importance of critical mass, which is achieved through healthcare networks.
- 1.89 Overall, therefore, HCA has provided clear evidence on the impact that divestment of the Princess Grace and the London Bridge hospitals will have on its ability to invest in high quality and innovative patient care. The CC has not properly taken account of this evidence and as a result the reductions to patient care that arise from its divestment remedy.

---

<sup>59</sup> Table 1, HCA's submission on the costs of divestment dated 18 December 2013

<sup>60</sup> Paragraph 134, Appendix 2.1 of the CC's Provisional Decision on Remedies

<sup>61</sup> According to the patient database, [REDACTED].

*The CC has failed to appreciate the importance of chilling effects on future investment*

1.90 HCA submitted that the CC's proposed divestment remedy is likely to give rise to substantial chilling effects on investment, deterring future investment in private healthcare provision in the UK.

1.91 In response to this point, the CC stated that:

*"[It does] not consider such concerns to be well-founded given the level of interest in the UK private healthcare market from both existing operators and overseas businesses"<sup>62</sup>*

1.92 This statement demonstrates a fundamental misunderstanding of the nature of a chilling effect and the evidence for it. HCA finds it unsurprising that other hospital operators indicated that they may have an interest in purchasing the hospitals it is being forced to divest. This does not, however, provide any evidence that the divestment remedy will not chill future investment, outside of the context of a forced purchase of specific assets. The CC's analysis, which according to the PDR consists only of expressions of interest in investing in the context of the forced divestiture, demonstrates a fundamental misunderstanding of the importance and potential extent of chilling incentives on investment. The mere fact that other operators have indicated they may be willing to buy assets does not imply that there will be no chilling effect on continued investment in that asset or indeed more generally in the market. The CC has stated that it will review the business plans of potential acquirers of London Bridge and Princess Grace hospitals, to ensure that they will pursue an appropriate strategy in relation to investments in quality and innovation. However, HCA considers that the only way in which it could be certain that the new owners would follow the same strategy as HCA would be to require levels of investment and quality to match HCA's. The CC has not indicated that it plans to do this, and indeed this would be a highly intrusive approach as well as an impractical and ineffective one.

1.93 The CC also referred to the likelihood that the assets sold as part of its divestiture remedy will achieve fair value. Furthermore, the CC stated that any reduction in the loss of value to a business as a result of divestiture is not relevant to its proportionality assessment, if that loss of value is caused by future financial performance no longer reflecting an AEC from common ownership.<sup>63</sup>

1.94 However, the CC has failed to understand that the forced divestiture leads to a loss of value to the business for reasons unrelated to any change in competitive conditions in the market. The forced divestiture removes the flexibility and choice available to HCA and this imposes real costs on the business, regardless of the number of purchasers that might be involved in bidding for the proposed divested HCA hospitals. Absent a forced divestiture, HCA is free to consider its exit strategy unconstrained, and to optimally select the time and manner of any potential exit. The proposed forced divestment removes this flexibility, as well as prescribing the pool of potential buyers, which means that the value HCA receives from a forced sale of the London Bridge and Princess Grace hospitals does not represent 'fair market value'.

1.95 Furthermore, as set out in the next section, the forced sale of two of HCA's facilities gives rise to substantial reductions in HCA's economies of scale. This will have a detrimental, ongoing impact on the efficiency and value of HCA's remaining business as it arises out of its ability to provide better quality care than its competitors by virtue of integrated pathways and economies

---

<sup>62</sup> Paragraph 2.80 of the CC's Provisional Decision on Remedies

<sup>63</sup> Paragraphs 2.138 – 2.139 of the CC's Provisional Decision on Remedies

of scale and scope. A 'fair market value' for the divested assets will not compensate HCA for this.

- 1.96 A forced divestment therefore imposes real and significant costs on HCA's business, preventing HCA receiving 'fair market value' for its assets (costs which are not caused from future financial performance no longer representing the CC's alleged AEC arising from common ownership). It is these costs which drive the substantial chilling effects on future investment that HCA submits are likely to arise as a result of the CC's proposed divestments.
- 1.97 Whilst there might be a number of potential purchasers of HCA's divested assets, in order to compete and grow market share, these purchasers or other investors would need to invest in these assets, and/ or more generally in the market. This investment is likely to be stifled as a result of the CC's divestment remedy, since purchasers will be aware that should their investments lead them to achieve higher market shares they will be at risk of forced divestiture and the costs on their business that this entails. HCA achieved its success at London Bridge and Princess Grace through a sustained campaign of investment year after year to improve the level of quality at what was previously a poorly managed and low performing hospital. The CC needs to explain why it believes that, had HCA known that at the end of its sustained efforts to invest in its facilities the result would have been a forced divestment, such investment would have still gone ahead.
- 1.98 The CC's proposed divestment remedy is likely to cause significant concern to investors in the UK, beyond even in healthcare. In this case, the CC has signalled that companies that invest and grow their businesses beyond a market share of 40 per cent are at risk of being required to divest substantial parts of their business, even if they have a strong and recognised record of providing high quality to their customers. While this may not always be the case for all divestments (for example where the market structure has arisen from the way a market was privatised or in cases where investments play a small role in determining competitive conditions and where there is a poor track record of investment to begin with), this is a clear and present concern in the present circumstances where investment is at the heart of how hospital operators compete in London and the firm that is being forced to divest has a leading track record in this respect. This precedent could have wide-reaching consequences for the UK economy.
- 1.99 Any reduction in investment in the UK economy more generally would lead to substantial economic costs from the proposed divestment remedy. In fact, even a reduction by 0.05 per cent in the level of foreign direct investment into the UK (approximately £468m)<sup>64</sup> would substantially outweigh the NPV the CC has calculated as arising from its proposed divestments (an NPV which HCA in any case submits is significantly overstated, as set out below). To go ahead with its proposed divestments of HCA's London Bridge and Princess Grace hospitals, the CC therefore needs to be confident that there will be no impact on foreign investment in the UK (as even a very limited impact would override any potential remedies). HCA submits that the CC is in no position to be confident that there will be no chilling effects from its proposed divestment remedies, and instead must attach at least some positive probability to such chilling effects arising, and therefore that the CC cannot conclude that its proposed divestments are proportionate.
- 1.100 Overall, therefore, HCA submits that the CC has failed to take proper account of the potential chilling effect on investment arising from its proposed divestment remedies. The CC's failure

---

<sup>64</sup> ONS figures, available at <http://www.ons.gov.uk/ons/rel/fdi/foreign-direct-investment/2012-sb/index.html>

demonstrates a misunderstanding of the importance and potential extent of chilling effects on investment, which it must address in its final report.

### Divestment will lead to a loss of economies of scale

- 1.101 The Guidelines state that the CC will consider whether any economies of scale or scope arising, for example, from high levels of concentration, exist and the extent to which they may constitute an RCB<sup>65</sup>. An RCB is said to arise from economies of scale if this translates into lower prices or higher quality for consumers. In the previous section, HCA set out how the loss of scale will reduce HCA's ability to invest and therefore will reduce the quality of patient outcomes. In this section, HCA discusses the evidence on economies of scale in relation to lower costs, and how that translates into lower prices for consumers.
- 1.102 Whilst HCA disagrees with the CC that this causes barriers to entry and confers on HCA market power, HCA does consider that it achieves economies of scale and scope across its portfolio of hospitals located in central London. These economies of scale and scope constitute an RCB that the CC must take into account in its assessment of the proportionality of its divestment remedy. As set out in the previous sections, HCA considers that any assessment of its scale and scope economies alone will not capture the full costs of divestiture given the considerable adverse effects on quality, investment and innovation and therefore patient outcomes that HCA anticipates will arise from the divestiture of the London Bridge and Princess Grace hospitals.
- 1.103 Before discussing the CC's assessment of economies of scale in relation to the proposed divestitures, HCA notes that in its analysis of barriers to entry, the CC has found that economies of scale exist in the operation of hospitals. Indeed, in its Provisional Findings report the CC stated that, "*there were large economies of scale relative to the size of local markets*"<sup>66</sup>. However, when assessing the costs of divestment the CC appears to have taken a different view and has not included any loss of economies of scale in its base case, arguing that HCA would be able to avoid any loss on an ongoing basis through reorganisation of its operations<sup>67</sup>.
- 1.104 HCA has already presented the CC with considerable evidence to suggest that there are not barriers to entry and expansion in London and therefore that this is not a feature that gives rise to an AEC. If the CC now considers that economies of scale are not substantial in its assessment of the costs of divestment, the CC must also conclude that there are no barriers to entry arising from economies of scale in London. This would imply that the CC's case for barriers to entry in London being a feature that gives rise to an AEC relies on the other barriers to entry it alleges, in particular i) availability of suitable sites; and ii) lack of patient growth. In relation to the former, HCA has provided extensive evidence in its Response to the PFs that site availability is not a barrier to entry in London<sup>68</sup>. In relation to the latter, HCA notes that the CC also appears in the PDR to conclude that this is not a feature that applies to London, noting that "*the growth in size of the London market would support the provision of specialist services even within an HCA group that held a smaller share of the market.*"<sup>69</sup>

---

<sup>65</sup> CC3, paragraph 362

<sup>66</sup> Paragraph 6.79 of the CC's Provisional Findings

<sup>67</sup> Paragraph 2.135 of the CC's Provisional Decision on Remedies

<sup>68</sup> For example, paragraph 6.71 of HCA's response to the CC's Provisional Findings; letter dated 1 November 2013 enclosing evidence of the planned London International Hospital entry in Hammersmith; email to the CC dated 18 November 2013 enclosing evidence from [redacted] on site availability in central London; and HCA's supplemental submission of December 2013 enclosing evidence of NHS properties suitable for full service hospital development currently available or becoming available due to NHS reconfiguration.

<sup>69</sup> Paragraph 2.119 of the CC's Provisional Decision on Remedies

1.105 Overall, therefore, the statements made by the CC in the PDR suggest that it considers that barriers to entry in London are substantially lower than it argued in its PFs. This would undermine the CC's rationale for imposing a divestment remedy, and the CC must take account of this in its final report.

1.106 Notwithstanding this, HCA has reviewed the case the CC has put forward in relation to the loss of economies of scale arising from the proposed divestiture and has a number of concerns with the assessment the CC has presented. This includes the CC's failure to properly assess the central cost savings HCA presented in December 2013<sup>70</sup> and the unsubstantiated assumptions it has made in developing its own estimates of the loss of economies of scale. Furthermore, HCA submits that the CC relied on flawed economic arguments to underpin its conclusions on the loss of economies of scale and the RCBs arising from such economies.

1.107 In the rest of this section HCA:

- sets out the evidence on the loss of economies of scale implied by the divestment remedy;
- comments on the CC's arguments for dismissing the evidence on economies of scale that the CC has provided; and
- sets out HCA's comments on the CC's own analysis of economies of scale.

***HCA's evidence demonstrates that there is a significant ongoing loss of economies of scale and scope arising from the divestiture remedy***

1.108 In December 2013, following an information request from the CC, HCA submitted its initial estimates of the costs of divestment including those arising from the loss of economies of scale and scope. HCA highlighted to the CC that the loss of both economies of scale and scope are relevant for consideration in identifying the adverse effect of divestment. Scale economies entail unit costs falling as output increases for a given good or service holding all other factors constant, while scope economies arise in the presence of common costs and entail cost reductions or other advantages associated the range of goods or services increasing. HCA's submission highlighted that it is able to spread a number of important costs, including those of centralised functions and technical facilities (such as HCA Laboratories and the Sarah Cannon Research Institute) across its portfolio of hospitals. HCA considers that the cost of these services would not reduce in direct proportion with its hospital portfolio size.

1.109 From the PDR, in HCA's view it is apparent that the CC has not properly considered the arguments put forward by HCA and the explanations provided as to why a proportion of the central costs would remain fixed post divestiture. The rest of this section sets out HCA's concerns with the CC's treatment of its evidence.

1.110 The CC limited its assessment of HCA's post-divestiture cost savings to two examples of cost reductions supplied by HCA, group staff costs and costs at HCA laboratories, that it considered to be "highly conservative"<sup>71</sup>. The CC simply stated that it thought HCA's assumptions regarding central costs were "likely to substantially underestimate the cost savings that could be made. For example, HCA suggested that it [§]."<sup>72</sup> HCA notes that the CC did not provide an explanation as to why it thought [§]. Similarly, the CC did not provide evidence that it reviewed HCA's evidence in relation to other cost categories, and overall failed to provide any

---

<sup>70</sup> See HCA's paper on the cost of divestment, dated 18 December 2013

<sup>71</sup> Paragraph 2.133 of the CC's Provisional Decision on Remedies

<sup>72</sup> Paragraph 2.133 of the CC's Provisional Decision on Remedies

explanation as to why it considered that the estimated costs associated with the loss of economies of scale should not be taken in to account in its analysis<sup>73</sup>.

1.111 Varying the assumptions on scale (and scope) economies has a substantial impact on the CC's NPV calculation, used to inform the CC's assessment of the proportionality of the its divestiture remedy. As a result, HCA contends that the CC's failure to properly take into account and engage with the evidence HCA provided on economies of scale fundamentally undermines that NPV calculation, and therefore the CC's arguments on proportionality.

1.112 Given the CC's failure to fully consider HCA's evidence in relation to the loss of economies of scale and scope, and as HCA has now had further time to consider and quantify these costs, HCA sets out below the additional analysis it has undertaken and its more detailed explanation as to the extent to which it would be possible to reduce central costs following the proposed divestments.

1.113 As a starting point, HCA stresses that the CC must take account of the current business structure of HCA given that this affects the central costs incurred and recharged to the individual hospitals. The CC does not refer to the importance of the current business structure in its assessment in the PDR, and the fact that it considers that BMI's central cost assumptions can be applied directly to HCA (as discussed in further detail below) suggests that it has taken no account of how corporate and network structure affects the realisation of economies of scale and scope for HCA.

1.114 HCA's central costs, over which economies of scale and scope are realised, primarily relate to [REDACTED]. A full explanation of [REDACTED] are set out in Appendix 2.

1.115 In summary, based on the analysis HCA sets out in Appendix 2 to this Annex, HCA considers that the loss to economies of scale and scope arising from the CC's proposed divestiture of the London Bridge and Princess Grace hospitals would amount to [REDACTED],<sup>74</sup> comprising:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

1.116 [REDACTED].<sup>75 76</sup>

1.117 As demonstrated by this analysis, and explained in Appendix 2, the central costs in general cannot be proportionately scaled back following any divestiture and there is no guarantee that the economies of scale could be replicated fully by the buyer, particularly without an already significant London presence. [REDACTED]. The CC's assertion that the divestiture "*could generally be expected to facilitate step changes in cost savings*"<sup>77</sup> is not correct and highlights that it is imperative for the CC to understand HCA's business in order to conduct a comprehensive assessment of HCA's central costs and the loss of economies of scale and scope arising as a

---

<sup>73</sup> These categories include [REDACTED].

<sup>74</sup> The figures in bullet points have been rounded to [REDACTED]. Absolute figures are presented in Appendix 2 of this Annex.

<sup>75</sup> [REDACTED]

<sup>76</sup> [REDACTED]

<sup>77</sup> Paragraph 2.134 of the CC's Provisional Decision on Remedies

result of the CC's proposed divestments. Whilst the CC's assertions may have been applicable to some of HCA's competitors, or more broadly across previous CC market inquiries, this cannot be applied to HCA's business for the reasons summarised above.

1.118 HCA strongly disagrees with the CC's base case and 'downside' case of the ongoing cost of the loss of economies of scale of £0m and £5m per annum respectively. Based on the evidence set out above, it contends that a cost of [REDACTED] per annum should be included in the CC's NPV calculation. This reflects the realities of HCA's business and the extent to which it would be able to scale back central costs following the divestiture of London Bridge and Princess Grace hospitals, as set out in more detail in Appendix 2 to this Annex.

1.119 As noted by the CC, HCA has been unable to quantify all of the economies of scale and scope that it realises, for example those associated with the scale of its purchasing of supplies. HCA submits that where such costs are not taken in to account in the NPV calculation, the CC must recognise that the cost estimates it uses are conservative, due to the exclusion of costs that could not be quantified.

***The CC's dismissal of HCA's evidence on economies of scale relies on flawed and overly simplistic analysis***

1.120 As noted above, the CC's base case in its proportionality assessment assumes that there will be no loss of economies of scale resulting from the proposed divestitures. The CC has presented a number of arguments as to why it considers this to be the case, including arguments in relation to HCA's recent financial performance. As HCA explains below it considers that the CC's assessment is based on flawed analysis, and fails to reflect properly HCA's evidence on costs.

1.121 The CC stated that HCA's recent financial performance does not support HCA's approach to estimating its loss of economies of scale. Specifically, the CC argued that [REDACTED], whilst its EBITDA remained broadly constant at around [REDACTED] per cent. As a result, the CC considers that HCA does not enjoy the level of economies of scale (or scope) that HCA had submitted, and that, accordingly, "at least a large proportion of the central costs associated with these facilities could be saved by HCA following divestiture"<sup>78</sup>.

1.122 HCA considers examining the trend of EBITDA against revenue over time is overly simplistic and provides no appropriate justification for the dismissal of HCA's reasoned calculations of central cost savings, for two reasons.

1.123 [REDACTED].

1.124 [REDACTED].

***The CC's own analysis of HCA's economies of scale relies on assumptions not grounded in reliable evidence***

1.125 The CC dismissed the evidence HCA provided in relation to economies of scale and scope, and calculated its own estimates of the likely economies of scale and scope that might be lost as a result of the CC's divestment remedy. In doing so, the CC made a number of inaccurate assumptions that are not supported by any reliable evidence. The rest of this section sets out HCA's concerns with the CC's analysis.

---

<sup>78</sup> Paragraph 2.134 of the CC's Provisional Decision on Remedies

- 1.126 The CC applied BMI's assumptions on the loss of scale economies BMI would face following the proposed divestitures of a number of its hospitals and estimated that HCA could realise [£] of central cost savings in its remaining facilities post-divestment per annum. HCA is unable to comment on the applicability of BMI's assumptions about central cost savings to its own business given that the CC has not disclosed this information within its PDR. However, as HCA highlighted in paragraph 1.116 above the central cost savings that could be realised are dependent on the range and scale of functions provided at the central level. HCA is therefore unclear why the CC considers it appropriate to apply BMI's assumptions on loss of economies of scale to HCA's business, given that it is highly unlikely that BMI's centrally provided functions and their associated costs directly mirror its own or would provide an appropriate comparator for the structure of HCA's business following the divestiture of two of its hospitals. Instead, HCA submits that the CC should use the evidence HCA has provided on the loss of economies of scale and scope arising from the CC's proposed divestments, including the revised figures set out in paragraph 1.115 above.
- 1.127 Of even greater concern, the CC has in any case not used its estimate of [£] of central cost savings, in its NPV calculations. Instead the CC states that it "*expect[s] that HCA would in fact be able to make much more significant cost savings following a reorganization of its operations*"<sup>79</sup>. Therefore, without any analysis or evidence, the CC applies a value of zero to HCA's losses of economies of scale in the base case scenario of the CC's NPV calculation, and £5m a year in the CC's 'downside' case. HCA strongly considers that it is not appropriate for the CC to make assumptions about the costs associated with the loss of economies of scale following the divestment of HCA's hospitals, without any evidence base to support the figures it uses. Furthermore, the CC's unsupported assumptions contradict the substantial evidence HCA has provided on the costs associated with the loss of economies of scale following divestment. If the CC is to dismiss HCA's evidence, including the more detailed evidence set out in paragraphs 1.112 to 1.119 above, it must provide evidence to justify its conclusions.
- 1.128 The CC also concluded, based on its pricing analysis, that any economies of scale that do exist are not passed on to consumers in the form of lower prices, citing this as further justification for not taking into account the loss of economies of scale at HCA's remaining facilities as an RCB. The CC refers to its analysis of HCA's prices compared to those of TLC, which operates only one hospital<sup>80</sup>. HCA notes, as it has stated previously,<sup>81</sup> that in fact the IPA on which the CC based this statement is an analysis of episode charges rather than prices. As set out in paragraphs 1.55 to 1.58 above, HCA has submitted arguments and analysis in its response to the CC's PFs to show that the CC's IPA is inadequate, methodologically flawed and does not support the CC's finding that HCA charges higher insured prices. HCA strongly submits that there is no evidence that HCA charges higher prices than its competitors.
- 1.129 Even if the CC does consider that HCA's prices are higher than TLC it has not sought to understand how this is driven by the higher costs it incurs in providing high quality, high acuity patient care. The realisation of economies of scale is only one driver of cost differences between HCA and TLC and the CC has not made any attempt to offset the lower costs HCA has for its centrally provided services compared to TLC against the lower costs that TLC faces due to the tax advantages from its charitable status, for example.

---

<sup>79</sup> Paragraph 2.135 of the CC's Provisional Decision on Remedies

<sup>80</sup> Paragraph 2.137 of the CC's Provisional Decision on Remedies

<sup>81</sup> Ref.

- 1.130 The CC's analysis of the loss of economies of scale at HCA's remaining facilities post-divestment is therefore based on incorrect assumptions. Furthermore, the CC's arguments that any loss of economies of scale will not impact prices, and therefore is not an RCB, is based on fundamentally flawed analysis. The CC must therefore properly take into account the evidence on economies of scale and scope and the RCBs that these generate in its proportionality assessment in its Final Report.
- 1.131 The previous paragraphs discuss the CC's assumptions about the loss of economies of scale and scope at HCA's remaining facilities post divestment. In addition, the CC makes the assumption that no costs associated with the loss of economies of scale at the divested hospitals should be factored in to its analysis. The CC argues that , *"if there were significant economies of scale (at the group level) in the provision of private healthcare services, we [the CC] would expect that advantaged suitable purchasers of HCA's hospitals would include national or international groups who would ensure that the divested hospitals would continue to benefit from economies of scale"*<sup>82</sup>. HCA considers that this is another example of the CC relying on a broad assumption that is not supported by evidence and which cannot be substantiated.
- 1.132 The CC proposed a number of criteria that the potential acquirers of HCA's hospitals must meet, however, there is no certainty that the acquirer will currently operate a network of hospitals, that the scale of the network will be the same as HCA's current network or that the economies of scale HCA currently realises could be matched. Some of HCA's economies of scale, such as those related to its [redacted] could not be achieved by any operator who does not operate a network of hospitals in London. [redacted]. Furthermore, the way in which the new acquirer structures its operations and the extent to which these are centralised will affect the extent to which the divested hospitals would continue to benefit from economies of scale.
- 1.133 The CC therefore has no evidence on which to conclude that the costs of the divested HCA hospitals will not increase. HCA submits that they these divested hospitals are highly likely to suffer a significant loss of economies of scale, greater than those costs incurred at HCA's remaining facilities.

## TRANSACTION COSTS

- 1.134 In its submission to the CC on the costs of divestment<sup>83</sup>, HCA set out the professional adviser and legal costs it anticipated it would incur associated with the proposed divestitures. It set out a range of figures dependent on whether the two proposed hospitals were to be sold to a single buyer or to two individual buyers. From the PDR it appears that the CC envisages two individual buyers for HCA's hospitals, given that they are both in the same local area<sup>84</sup>. Therefore, the high estimates presented by HCA are the relevant costs for the CC's proportionality assessment.
- 1.135 HCA's estimated costs for the divestiture were based on a review of the financial accounts of the two proposed hospitals given that the expected transaction costs are linked to the size of the transaction. The CC has provided no justification for not using the exact estimates provided by HCA and instead using a figure of £5m. It merely states that, *"We [the CC] thought that the total level of fees suggested by both BMI and HCA were within a reasonable range.... We have,*

---

<sup>82</sup> Paragraph 2.136 of the CC's Provisional Decision on Remedies

<sup>83</sup> HCA's submission on the costs of divestment dated 18 December 2013

<sup>84</sup> Paragraph 2.85 (d) of the CC's Provisional Decision on Remedies

therefore, taken into account transaction fees of £5 million for HCA<sup>85</sup>. HCA contends that the CC must use the [REDACTED] estimate for professional adviser and legal fees for the divestiture of the two hospitals to two separate acquirers and the CC has no evidence to support the lower value applied in its analysis.

1.136 Additionally, the CC should note that HCA did not include any monitoring trustee costs in its assessment of fees associated with the divestitures. In the PDR the CC has stated that HCA would be required to appoint a monitoring trustee to oversee the divestiture process and compliance with divestiture commitments<sup>86</sup>. Therefore, it is necessary for these additional costs of divestiture to be taken in to account. HCA has sought estimates of the likely costs for a monitoring trustee to oversee compliance with the undertakings the CC has proposed over the proposed divestiture period of [REDACTED] months. HCA anticipates that those costs will be approximately [REDACTED].

1.137 Furthermore, HCA disagrees with the CC's failure to take into account the transaction costs of the purchasers of its hospitals. Whilst it may be the case that the purchaser would reflect its costs in its bid for the hospitals, thus reducing its bid by an equivalent amount, this does not negate the fact that these costs arise directly from the CC's proposed divestitures. The fact that the bid amount is reduced means that these costs fall on HCA who is unable to achieve the full value of the business through its sale. The CC cannot dismiss these costs. HCA's estimation of [REDACTED] of the professional adviser and legal costs that would be incurred by the two separate acquirers of HCA's hospitals if divestiture were to go ahead should be factored in to the CC's cost calculations.

## NET PRESENT VALUE CALCULATION

1.138 In order to assess the proportionality of the divestiture, the CC has estimated the NPV of the proposed divestitures. It uses its assessment of the costs of divestiture and the proposed price benefits and discounts these over a 20 year time period to reach the conclusion that the divestiture of London Bridge and Princess Grace hospitals, *"does not produce disadvantages that are disproportionate to the aim since the likely price and quality benefits of requiring HCA to divest two of its hospitals exceed the costs substantially"*<sup>87</sup>.

1.139 HCA disagrees with this assessment. First, HCA considers that the costs and benefits included in the CC's NPV calculations are incorrect, namely that the benefits are overstated and that the cost of reduced quality, innovation, investment and economies of scale are not properly taken account of by the CC. Second, HCA considers that the CC's methodology is flawed. The CC assumes a static market over the 20 year time horizon which is clearly at odds with the evidence of planned entry and expansion in London. Third, using its own assessment of quantifiable costs and benefits, HCA finds that the NPV of the proposed divestitures is in fact negative, before taking into account substantial but unquantified costs associated with the reduction in quality and innovation arising from the proposed divestment.

## The costs and benefits included in the CC's NPV calculations are incorrect and the RCBs are not properly taken into account

---

<sup>85</sup> Paragraph 2.143 of the CC's Provisional Decision on Remedies

<sup>86</sup> Paragraph 2.89 of the CC's Provisional Decision on Remedies

<sup>87</sup> Paragraph 2.173 of the CC's Provisional Decision on Remedies

1.140 The CC has estimated an NPV of the benefits of divestment. It estimates this value to be between £38.3 million and £365 million over the 20 year period from the initial year of the proposed divestitures of London Bridge and Princess Grace hospitals. The net benefits estimated are composed of:

- price benefits;
- costs associated with a loss of economies of scale; and
- transaction and reorganisation costs.

1.141 As detailed in the sections above, HCA disagrees with the methodologies used to calculate these costs and benefits, and submits that the evidence and economic arguments used by the CC to support its assumptions (and at the same time to dismiss the substantial evidence provided by HCA) are inadequate. HCA considers that the price benefits are significantly overstated and that the costs associated with the loss of economies of scale, reorganisation and the transaction are significantly understated.

1.142 Furthermore, the CC's NPV calculation excludes significant cost categories, including the detrimental impact of the proposed divestitures on quality, innovation and investment. HCA sets out its evidence in relation to each of these interlinked areas above. Whilst the impacts on quality and innovation are not easily measured, as HCA highlighted to the CC in its Costs of Divestment Submission<sup>88</sup>, the CC has an obligation to take account of all consumer detriments, whether or not it is capable of quantification. All economic or welfare losses must be given proper consideration in the CC's assessment of the proportionality of a proposed remedy. HCA has spelled out the impact of the divestment remedy on quality and innovation and therefore on patient outcomes. Although these impacts have not been quantified by HCA in monetary terms, the CC must take the impact into account in its proportionality assessment. Furthermore, in relation to investment HCA has estimated the loss of investment that will arise from the proposed divestitures, which HCA submits that the CC should have included in its NPV calculation.

**The CC's NPV calculations are based on a flawed methodology incorrectly assuming that the market will remain unchanged over 20 years**

1.143 HCA does not agree with the methodology employed by the CC in its NPV calculation. The counterfactual scenario adopted by the CC is that of a 'static market'. HCA considers that the counterfactual scenario should reflect the impact of the additional remedies that the CC has proposed to address its identified AECs well as planned entry and expansion in the private healthcare market. The CC's unrealistic assumption of the market remaining unchanged, apart from the through the divestment remedy, over the next 20 years leads the CC to significantly overestimate the benefits that can be attributed to the proposed divestitures.

1.144 HCA strongly considers that the CC's market assessment over a 20 year time period is inappropriate as it fails to take into account the other proposed remedies that the CC intends to introduce. The CC has not considered how the market will develop as a result of these and fails to reflect any change in market dynamics arising from these remedies in its counterfactual scenario in the NPV analysis of divestiture. The CC itself has suggested that the prohibitions and restrictions on clinician incentive schemes will improve competition on quality and price and that the various information remedies will stimulate competition. This increased competition

---

<sup>88</sup> HCA's submission on the costs of divestment dated 18 December 2013

should arise absent the proposed divestitures and therefore the CC's static assessment is inappropriate.

- 1.145 Additionally, HCA noted in its response to the PFs that there was significant planned entry into the London market<sup>89</sup>. Firstly, the London International Hospital is expected to launch in 2014, based in Hammersmith. This is a 150-bed, multidisciplinary facility that will specialise in areas that include oncology, cardiology and neurology. In addition, the Kent Institute of Medicine and Surgery (KIMS) is expected to open in 2014 which will increase competitive constraints on HCA, in particular on the London Bridge Hospital. This is a 100 bed private hospital that openly states its intention to compete with operators in the capital, and, indeed, the CC has heard this directly from KIMS in KIMS' response to the PFs<sup>90</sup>. HCA has also provided the CC with examples of planned investment in London by private operators including Spire<sup>91</sup>, Ramsay<sup>92</sup> and Nueterra<sup>93</sup>.
- 1.146 In addition to entry, HCA's close competitors in London have continued to expand, and many have significant future plans for expansion. HCA discusses these in detail in its response to the PFs<sup>94</sup>. Notably, the King Edward VII Hospital is currently redeveloping two sites to increase its size by around 50 per cent, and the Bupa Cromwell facility has plans to "*expand the number of areas in the hospital offering specialised care*" and will be "*installing clinically leading-edge technology*"<sup>95</sup>.
- 1.147 Furthermore, the continual growth and expansion of private patient units (PPUs) is a further dynamic absent from the CC's methodology. The CC itself noted in its PFs that PPUs in London are positioning themselves to take advantage of the lifting of the cap on private patient revenue, more quickly than PPUs outside of London.<sup>96</sup> HCA has provided the CC's with considerable analysis on future PPU growth<sup>97</sup>, and the position of PPUs as competitors to the 'traditional' private hospital operators is noted by key insurers<sup>98</sup>. Revenues from private patients at the 12 NHS Trusts / Foundation Trusts that have PPUs in central London have grown by 36 per cent over the last three years, and 11 of these 12 have explicitly noted their plans to grow their business in this area in recent annual reports. At a minimum, this represents significant new entry by two groups and major expansion by 11 others.
- 1.148 Continued entry and expansion is likely to be sustained given the level of growth expected in demand for private healthcare in London<sup>99</sup>, as recognised by the CC in the PDR<sup>100</sup>. Its population is expect to increase 10.8 per cent from 2013-2021, and do so disproportionately, creating an ageing population that naturally has a greater demand for healthcare services. Furthermore, the key age demographics for HCA's private healthcare operations – which it considers likely to be similar to its competitors – are expected to grow faster than the UK average.

<sup>89</sup> See paragraphs 6.6 to 6.32 of HCA's response to the CC's Provisional Findings

<sup>90</sup> Page 1 of KIMS's Response to Provisional Findings

<sup>91</sup> Paragraph 6.10 of HCA's response to the CC's Provisional Findings

<sup>92</sup> Paragraph 6.17 of HCA's response to the CC's Provisional Findings

<sup>93</sup> Paragraph 6.18 of HCA's response to the CC's Provisional Findings

<sup>94</sup> Paragraph 6.4 of HCA's response to the CC's Provisional Findings

<sup>95</sup> <http://www.bupacromwellhospital.com/about-our-hospital/about-us/hospital-redevelopment/>

<sup>96</sup> Paragraph 9, Appendix 3(1) of the CC's Provisional Findings.

<sup>97</sup> See Annex 1 of HCA's response to the CC's Provisional Findings

<sup>98</sup> For example, see paragraph 49 of the CC's Provisional Decision on Remedies

<sup>99</sup> See Section 4 and paragraphs 6.33-6.36 of HCA's response to the CC's Provisional Findings

<sup>100</sup> Paragraph 2.119 of the CC's Provisional Decision on Remedies

1.149 It is clear that HCA operates in a highly dynamic market, with a rich recent history of entry and expansion, and with demand set to grow in the future. This is supported by considerable evidence to show that this activity is only set to increase, with the entry from two new hospitals, expansion of current competitors, and the continual growth of PPUs. Given this evidence, HCA considers that the CC's assumption of a static market in its NPV calculation is wholly inappropriate.

### **HCA's assessment of the costs and benefits shows that the CC's proposed divestitures are disproportionate**

1.150 Given that HCA considers that the CC's assessment of the costs and benefits of the proposed divestitures are incorrect it has undertaken its own calculation of the NPV, using the same methodology that the CC used in the PDR (despite its flaws). HCA's explanation for the costs and benefits it considers will arise from the divestitures of London Bridge and Princess Grace hospitals are set out above and in Appendices 1 and 2.

1.151 HCA has amended the CC's NPV calculations to include:<sup>101</sup>

- [redacted] cost per annum of lost of economies of scale;
- [redacted] in reorganisation costs ([redacted] per year for the first two years post-divestment);
- [redacted] in one-off transaction costs incurred by HCA in year one only;
- [redacted] in one-off transaction costs incurred by the firms acquiring HCA's divested hospitals in year one only;
- [redacted] of lost investment at London Bridge and Princess Grace hospitals in year one ([redacted]) and [redacted]<sup>102</sup> of lost investment at the divested hospitals per annum from year two onwards; and
- [redacted] of lost investment at HCA's remaining hospitals. This is an illustrative estimate of the loss of investment at HCA's remaining facilities, estimated at [redacted]; and
- £0m of price benefits.

1.152 Using these costs and benefits, HCA estimates the NPV of the proposed divestment to be [redacted] over the 20 year time horizon.<sup>103</sup>

1.153 However, HCA considers that the cost estimates underpinning this revised NPV calculation are highly conservative for a number of reasons set out in the following paragraphs, and that as a result, the NPV is likely to be in fact even lower than the one estimated in the previous paragraph. First, there are a number of costs of divestment which are not included in the NPV calculation. As set out in detail above, HCA considers that the divestitures will result in a reduction in the quality of private healthcare provision and loss of innovation which will

---

<sup>101</sup> All figures in this text rounded to the nearest [redacted], but the calculations underlying HCA's analysis use unrounded figures.

<sup>102</sup> HCA previously submitted that it would expect a loss of investment at the divested hospitals of approximately [redacted] per annum. This was based on the difference in investment levels using [redacted]. HCA has now extended its analysis to include a range of international operators. It has calculated the expected change in investment levels at the London Bridge and Princess Grace hospitals post-divestment based on a comparison of HCA's capex as a proportion of revenues to the average levels of capex as a proportion of revenues at eight other private healthcare providers. This comparison is set out in Figure 2

<sup>103</sup> This uses the same discount rate that the CC used in its Provisional Decision on Remedies.

negatively impact on patient outcomes. It is only with the consideration of these costs that a conclusion can be made from the NPV estimates for the proportionality assessment. As HCA set out in paragraphs 1.68 to 1.100 above it considers that these costs will be significant and must be taken in to account in the proportionality assessment.

1.154 Second, as set out in paragraphs 1.90 to 1.100, HCA considers that there are likely to be chilling effects on investment as a result of the CC forcing the divestiture of two hospitals from a business which, through its strategy of continued investment, innovation and seeking to provide the highest levels of patient care, achieved a greater than 40 per cent share of revenues in a market which the CC considered using an arbitrary geographic market definition. Even if FDI were to fall by only a very small proportion as a result of the CC punishing the efficiency of HCA this could have a significant impact on the overall levels of investment in private healthcare and the UK more widely.

1.155 As set out above, HCA therefore considers that the CC's estimated NPV is incorrect. In fact, even correcting only parts of the CC's analysis, the NPV estimate is reduced and shows that the proposed divestment leads to net costs rather than net benefits:

- Leaving the CC's price benefits unchanged from those set out in the PDR (even though, as set out above, HCA considers these to be incorrect) but correcting the CC's assumptions on the costs of its proposed divestment (as set out in paragraph 1.151 above), the NPV of the impact of the divestment of the London Bridge and Princess Grace hospitals ranges from [redacted]<sup>104</sup> to [redacted]<sup>105</sup>, with a the mid-point of [redacted], over the 20 year time horizon.
- Using HCA's revised estimates of the price benefits of divestment, set out in paragraph 1.62 (although as set out in paragraph 1.50 HCA considers that in fact there will be no price benefits from the CC's proposed divestment) and using HCA's estimates of the quantified costs associated with divestment (as set out in paragraph 1.50), the NPV of the impact of the divestment of the London Bridge and Princess Grace hospitals would be [redacted]<sup>106</sup> over the 20 year time horizon.

---

<sup>104</sup> Using the CC's price benefit estimate from its low case of £9.5m per annum

<sup>105</sup> Using the CC's price benefit estimate from its upper case of £29.5m per annum

<sup>106</sup> Using an estimated price benefit of £0.98m per annum, as set out in paragraph 1.1.62

## APPENDIX 1: CRITIQUE OF THE CC'S PRICE BENEFITS ANALYSIS

### SUMMARY

- Even setting aside HCA's view, expressed in this response, that the divestment remedies proposed by the CC will not mitigate the AEC the CC has provisionally found, HCA is of the view that the proposed divestments will not generate the price benefits estimated by the CC. In particular, these benefits have been grossly overstated due to a methodology that features a number of fundamental flaws.
- In particular, the price-concentration analysis (PCA) does not have any relevance to London or to HCA: the PCA omitted episodes from a large number of HCA's competitors; it focused on four treatments that are completely unrepresentative of HCA's business; and its results are driven by one operator (Nuffield Health), which is not active in London. As such, the PCA cannot inform in any meaningful way the analysis of price benefits that the CC estimated in the case of the proposed HCA divestments in central London.
- In its estimation of the price benefits from the proposed divestment, the CC incorrectly applied results from its analysis of self-pay patient pricing to insured patients, and vice versa. This is totally inconsistent with the CC's assessment in this inquiry of the different nature of competition for self-pay and insured patients.
- The PCA analyses only UK self-pay inpatients. However, the CC, when estimating the price benefits, also incorrectly applied the results of the PCA to international patients, as well as to day-case patients and outpatients, without any robust justification or evidence. Likewise, it incorrectly applied the results of its insured pricing analysis (IPA) to outpatients, without any robust justification or evidence.
- Even if one accepted the CC's framework for the assessment of price benefits using the PCA (which HCA does not), once the application to inappropriate groups of patients has been corrected, the estimated price benefits from the proposed HCA divestments are **less than £0.98m per year**. In short, the CC has overestimated these benefits by a factor of nearly 10.
- There are also fundamental flaws with the CC's approach to the estimation of the price benefits of the proposed divestments based on the IPA. The IPA is not informative of insured prices since (instead of prices) it analysed episode charges, which are subject to considerable variation, due, for example to clinical reasons (e.g. patient characteristics, case complexity) leading to different services being provided.
- Further, the CC has not found sufficient evidence to show a robust (i.e. statistically significant) difference in episode charges between HCA and TLC, especially considering that the CC failed to properly control for quality, costs and episode acuity. As a result, the CC has no evidence that there would be any price benefits from the proposed divestments.
- Even if one believed that the IPA was methodologically sound (which HCA does not), the evidence resulting from it cannot be seen as supporting the argument that HCA charges higher prices as a result of its level of market share. Indeed, the IPA shows that [§], this shows that the CC's argument that HCA has market power because of its higher market share is inconsistent with observed market outcomes.

## 1. INTRODUCTION

- 1.1 As HCA submitted in its response to the CC's PFs, the CC incorrectly provisionally identified an AEC in the UK private healthcare market - and in central London in particular - on the basis of a flawed definition of the relevant geographic market, a flawed PCA, a flawed IPA, a flawed profitability analysis, and a flawed bargaining framework.<sup>107</sup>
- 1.2 Throughout the inquiry, the CC completely underplayed the role played by quality and innovation in (private) healthcare. Quality and innovation are key drivers of the competitive process and HCA's high quality outcomes and innovation track record are clear evidence of the competitive pressure it is under, including from its overseas competitors. The CC has failed, throughout the entire inquiry, to perform an analysis of how the degree of quality or the intensity of innovation in the (private) healthcare market arise from competitive pressures.
- 1.3 In its PDR, the CC assessed the benefits from the proposed HCA divestments as follows:
- It focused its analysis on expected price benefits.<sup>108</sup>
  - It assumed that quality and innovation will increase following the proposed divestments due to increased rivalry brought about by lower local market concentration. It added that such benefits would not be amenable to easy quantification.<sup>109</sup>
- 1.4 HCA strongly disputes that quality and innovation will increase following the proposed divestments. Quality and innovation in the private healthcare market are not simply driven by rivalry proxied by the number of players in the marketplace, as the CC's rationale behind its proposed divestment remedies seems to suggest.<sup>110</sup> Far from this, the CC's proposed intervention is instead likely to chill innovation and thus reduce quality levels. As such, expected changes in quality should be part of the analysis of the economic costs, not the benefits, of the proposed divestments. HCA sets out the reasons why quality and innovation levels are actually likely to drop as a result of the CC's proposed divestments in Section 6 of HCA's response to the PDR.
- 1.5 In its PDR, the CC estimated the price effects resulting from the proposed divestment of HCA's hospitals (London Bridge and Princess Grace) following two approaches:<sup>111</sup>
- Using results from the PCA – '**Approach 1**'; and
  - Using results from the IPA, in particular around the difference in prices that the CC claims to have found between HCA's insured prices and TLC's insured prices ('London Price Index') – '**Approach 2**'.
- 1.6 In what follows, HCA provides a critique of each approach in turn, setting out why both approaches are fundamentally flawed, just like their underlying analyses (PCA and IPA, respectively).

<sup>107</sup> See paragraphs 5.29 – 5.49 of HCA's response to the CC's Provisional Findings, in relation to geographic market definition, Appendix 2 in relation to the Price Concentration Analysis, Appendix 4 in relation to the Insured Pricing Analysis, Appendix 5 in relation to profitability and Section 7 in relation to bargaining

<sup>108</sup> Paragraphs 2.148-2.150 and Appendix 2.5 of the CC's Provisional Decision on Remedies

<sup>109</sup> Paragraph 2.156 of the CC's Provisional Decision on Remedies

<sup>110</sup> Paragraph 2.171 of the CC's Provisional Decision on Remedies

<sup>111</sup> Paragraphs 6-16, Appendix 2.5 of the CC's Provisional Decision on Remedies

## 2. APPROACH 1 IS FUNDAMENTALLY FLAWED

2.1 In this section, HCA:

- briefly summarises the first approach followed by the CC in its estimation of the price benefits from the proposed HCA divestments;
- sets out the reasons why the CC erred in how it applied the PCA results to categories of patients that were not part of the scope of the PCA;
- sets out why the PCA is completely uninformative of the degree of competition in central London and thus why the CC erred in applying Approach 1 to central London;
- sets out further ways in which the CC's analysis was not conservative;
- quantifies the extent to which the CC overestimated the price benefits from the proposed divestments; and
- summarises why the PCA is flawed even insofar as its limited scope of supposed applicability is concerned.

### Summary of the CC's approach

2.2 The CC calculated the price benefit for both self-pay and insured patients resulting from the proposed hospital divestments using the following formula:<sup>112</sup>

*Change in LOCI network effect x PCA coefficient x Relevant revenue*

2.3 The three elements of this formula are described below, in turn:

- *Change in LOCI network effect* – The CC defined network effect as the difference between the network LOCI of a given hospital and its individual LOCI.<sup>113</sup> According to the CC, the divestment of a hospital has two implications for network effects.<sup>114</sup> First, the divestment of a hospital to another hospital group completely eliminates the network effect at that hospital from the perspective of the previous owner (since it no longer owns that facility). Second, the divestment of a hospital determines a decrease (but not a complete elimination) of the network effect at the other hospitals that are still owned post-divestment by the divesting hospital group.
- *PCA coefficient* - The CC applied the estimates of the network LOCI coefficient resulting from its preferred PCA specifications.<sup>115</sup> Based on these estimates, reductions of around 20 percentage points in a hospital's weighted average market share are associated with, on average, a three to four per cent decline in the average price charged to self-pay patients.<sup>116</sup>

---

<sup>112</sup> Paragraph 9, Appendix 2.5 of the CC's Provisional Decision on Remedies

<sup>113</sup> Paragraph 4, Appendix 2.4 of the CC's Provisional Decision on Remedies

<sup>114</sup> See spreadsheet "HCA Price benefit calculation.xlsx", shared by the CC on 23 January 2014.

<sup>115</sup> From a review of the CC's methodology, it appears that the CC used the coefficients associated to network LOCI and fascia count resulting from the PCA specifications L7 and FC7, reported in Tables 6 and 7, Appendix 6.9 of the CC's Provisional Findings

<sup>116</sup> Paragraph 6.197 of the CC's Provisional Findings. The CC appears to have used the 3% price effect as a lower bound and the 4% price effect as an upper bound, in order to estimate a range of likely price benefits.

- *Relevant revenue* – The revenue considered in the formula refers to all six HCA hospitals (using 2011 data). It includes both self-pay (including international) and insured patient revenue. The CC considered three alternative revenue measures:
  - revenues from inpatients only;
  - revenues from inpatients and day-case patients; and
  - revenues from inpatients, day-case patients and outpatients

The CC considered that the base case should include revenues from both inpatients and day-case patients.

### **The CC incorrectly applied the PCA results to categories of patients that were outside the scope of the PCA**

2.4 The CC applied the PCA results to patient categories that were outside the scope of the PCA:

- First, the CC applied the results from the PCA, which sought to assess the relationship between local market concentration and self-pay prices, to insured patients, in spite of stressing throughout the inquiry how the nature of competition for these two categories of patients is fundamentally different.
- Second, in its base-case scenario, the CC applied the results from the PCA, which looked at inpatient episodes, to day-case patients too (and even to outpatients, as part of a sensitivity check), without robust evidence supporting this approach.
- Third, the CC included revenues from international patients when considering the scope of likely price reductions from the proposed divestments without considering the nature of competition for these patients (which mainly comes from overseas).

2.5 Below, HCA discusses each issue in turn.

#### ***Insured patients***

2.6 The CC described its method for assessing the price effect of its proposed divestments on patients as follows:

*"We reasoned that, in local areas outside central London, the most appropriate method of estimating the likely change in total revenues resulting from a change in concentration would be to apply the coefficient range identified in our PCA analysis to the changes in the weighted average market share of the hospitals to identify the price effect for both self-pay and insured patients."<sup>117</sup>*

2.7 However, the CC did not set out a different approach to the estimation of price benefits from the proposed divestments in central London. The CC went on to provide the summary results from the estimation of such benefits in the case of the proposed HCA divestments as well using the same approach.<sup>118</sup> Therefore it is unclear why the CC contemplated a different approach but did not set out what this was before eventually using the same methodology.

---

<sup>117</sup> Paragraph 2.148 of the CC's Provisional Decision on Remedies, (footnote omitted, emphasis added)

<sup>118</sup> Table 5, paragraph 2.149 of the CC's Provisional Decision on Remedies

2.8 The CC stated that it "*could make the assumption that the relationship between concentration and insured prices was similar to that discovered by [its] PCA*"<sup>119</sup> and that "*[t]his approach is consistent with [its] understanding of how prices are determined as set out in [its] provisional findings*".<sup>120</sup> However, this is in fact contrary to much of the CC's thinking throughout the inquiry about how competition takes place in the private healthcare market and contrary to basic economic theory:

- The CC itself argued that the interaction between hospital operators and PMIs should be analysed in the context of a bargaining framework in which the outcome of negotiations depend on the parties' respective bargaining power.<sup>121</sup> The CC further explained that, in its view, the relative bargaining positions of the parties depended on a number of factors, such as: (i) the importance of local factors to national negotiations (i.e. whether there are features of local market that make certain hospitals "must have" for PMIs); (ii) the extent to which PMIs can control where patients are treated and can switch demand to other providers; (iii) the extent to which the relative size and financial strength of the parties influences the outcome of negotiations.<sup>122</sup> This competitive framework is clearly very different from the one where hospital operators interact directly with self-pay patients. The CC has set out no basis in economic theory for using the latter approach in gaining an understanding of a bargaining market.
- The CC also stated: "*Given the high fixed costs inherent in a hospital business, an operator's profitability will be sensitive to volume changes, and we thought that in a more competitive environment the PMIs would be in a strong position to drive down both the new owner's or owners' and HCA's prices since they could credibly switch volume from one to the other and to TLC*".<sup>123</sup> HCA disagrees with the CC's view expressed in this statement concerning "a more competitive environment", however this conclusion, on the interaction between hospital operators and PMIs confirms the CC's view that countervailing buyer power is a relevant constraint in the formation of insured prices. This cannot be said in the case of self-pay patients.
- Finally, this use of the PCA for insured patients is inconsistent with the economic logic underlying the PCA. Assuming that the economic model underlying the PCA is correct, self-pay patients face a trade-off between price, quality and distance. However, insured patients do not face this same trade-off, because they pay no price (or a small co-payment, which would not be captured by the PCA anyway) at the point of consumption. Therefore, there is no economic rationale to use the PCA results as an estimate for the relationship between local market concentration and insured prices.

2.9 The CC has therefore used the results from a flawed analysis (the PCA) to estimate the price benefits on a group of consumers (insured patients) for whom that analysis had no relevance whatsoever, as the nature of competition for self-pay patients differs significantly from that for insured patients.

### **Day-case patients and outpatients**

2.10 The PCA was performed using observations on inpatient admissions to estimate, according to the CC, a causal relationship between local market concentration and inpatient self-pay

<sup>119</sup> Paragraph 4a, Appendix 2.5 of the CC's Provisional Decision on Remedies

<sup>120</sup> Paragraph 4a, Appendix 2.5 of the CC's Provisional Decision on Remedies

<sup>121</sup> Paragraphs 3-6, Appendix 6.11 of the CC's Provisional Findings

<sup>122</sup> Paragraph 10, Appendix 6.11 of the CC's Provisional Findings

<sup>123</sup> Paragraph 85, Appendix 2.1 of the CC's Provisional Decision on Remedies

prices. However, the CC applied its PCA results to day-case episodes (and outpatients too, in the case of a sensitivity check). The CC stated:

*"we considered that certain day-patient and outpatient treatments are likely to be subject to similar competitive conditions as those arising in the provision of inpatient treatments and, therefore, to similar price effects arising from weak competitive constraints (and, conversely, from divestments)."*<sup>124</sup>

- 2.11 But this is not a robust justification for the CC's approach and certainly does not constitute supporting evidence for the CC's argument. Throughout the inquiry the CC focused its competitive assessment on inpatient care, as opposed to day-case and outpatient, and it did not clearly identify any AEC in respect to day-case patients or outpatients.<sup>125</sup>
- 2.12 In particular, the CC failed to show that the relationship it believed the PCA identified between local market concentration and inpatient self-pay prices would hold for day-case (or outpatient) self-pay prices too. The CC itself observed that, given the asymmetric competitive constraints among different providers, inpatients, outpatients and day-case patients should be considered as distinct product markets.<sup>126</sup> If this is true, there is no reason to believe that the relationship between local market concentration and prices should be the same across the three categories of patients. By applying the same coefficient to these three categories of patients the CC therefore followed an approach that is inconsistent with its own assessment of the market.

### *International patients*

- 2.13 The CC estimated the price benefits from the proposed HCA divestments assuming that prices to international patients would fall by the same amount as prices charged to UK self-pay patients, without providing any evidence or justification for this approach. Again, this approach makes no sense as a matter of economics, as there are different competitive constraints on the provision of private healthcare to international patients, which would hardly be affected by the proposed divestments.
- 2.14 As already set out in previous submissions, HCA competes in an international market against a number of strong, independent competitors to attract highly mobile and quality-sensitive international patients to London and faces substantial competition from hospital operators in countries such as the US, Germany and Singapore.<sup>127</sup> These will remain the relevant competitive constraints on international patients both at HCA hospitals and at the proposed divested hospitals (to the extent that their quality will remain sufficiently high to attract international patients).
- 2.15 It is a gross error and manifest evidence of a flawed approach to the whole analysis that the CC considers it can reach a view on the effect of prices to international patients without having conducted any analysis at all on the basis for their choices and the competitive constraints that HCA faces in the international market. Further, similarly to what stated in paragraph 2.11 in relation to day-case patients and outpatients, including international patients in the calculation of benefits is inconsistent with the CC's assessment of the market, as a result of which the CC did not find an AEC in relation to international patients.

<sup>124</sup> Paragraph 7, Appendix 2.5 of the CC's Provisional Decision on Remedies

<sup>125</sup> Paragraph 6.4 of the CC's Provisional Findings

<sup>126</sup> Paragraph 5.53(b) of the CC's Provisional Findings

<sup>127</sup> Paragraph 5.3 of HCA's response to the CC's Issues Statement, July 2012; Question 12 of HCA's response to the CC's Market Questionnaire

**The PCA is completely uninformative of the degree of competition in central London and thus the CC erred in applying Approach 1 to central London**

- 2.16 The CC drew conclusions from an analysis (the PCA) that had no relevance to central London to estimate price effects in central London, in spite of evidence that central London is significantly different in terms of the demand and supply of private healthcare, a point stressed by the CC throughout the inquiry.
- 2.17 The relationship the CC investigated in its PCA is simply not relevant to London or to HCA. The CC can therefore make no reasonable inference from the PCA, certainly insofar as London and HCA are concerned. This is due to a number of reasons including:<sup>128</sup>
- The dataset used by the CC contained no observations related to HCA's closest competitors and so fundamentally understates the competition faced by HCA. The PCA therefore excluded TLC, the Bupa Cromwell Hospital, the St. John and St. Elizabeth, King Edward VII, Aspen Parkside and all PPUs; 55% of the total number of London invoices were not available for the PCA.
  - The PCA only considered four treatments.<sup>129</sup> These treatments are not representative of HCA's business, accounting for only [X] of UK self-pay inpatient episodes (or [X] of HCA's UK self-pay inpatient revenues) between 2009 and 2012. Therefore the PCA is totally uninformative about HCA's business. The CC has nevertheless used what it "learned" from treatments that represent less than [X] that fall within the 17 specialties that are part of the scope of the CC's market inquiry, without any robust assessment of whether this would be meaningful.<sup>130</sup>
  - The PCA's results were almost entirely driven by episodes at Nuffield Health's hospitals.<sup>131</sup>
  - The PCA did not identify a statistically significant relationship between local market concentration and self-pay prices for the case of HCA hospitals in isolation.
- 2.18 The CC can therefore make no reasonable inference from the PCA, certainly insofar as central London and HCA are concerned, in the context of an AEC finding in central London. Even more importantly, the CC cannot use an analysis that is irrelevant for central London, and for HCA, to estimate the price benefits it expects in that area following the proposed divestments of hospitals located in that area.
- 2.19 HCA points out that the CC itself noted that "*[within the] geographic area enclosed by the north and south circular roads [in London] market conditions both on the demand side and on the supply side, differ markedly from those prevailing elsewhere in the UK or are more*

<sup>128</sup> Paragraphs 2.87-2.96, Appendix 2 of HCA's response to the CC's Provisional Findings

<sup>129</sup> These were: gallbladder removal, hip replacement, knee replacement and prostate resection

<sup>130</sup> Paragraphs 2.94-2.95, Appendix 2 of HCA's response to the CC's Provisional Findings

<sup>131</sup> While in the Data Room set up by the CC in October 2013, HCA's advisers replicated the CC's econometric analysis excluding all observations pertaining to Nuffield Health. The PCA's OLS results showed that the coefficient on local market concentration (proxied by LOCI) was *not* statistically significant for the four remaining hospital operators as a whole. The PCA's IV results were also much less robust than in the PCA originally performed by the CC. In particular, the coefficient associated with LOCI was no longer statistically significant in the IV specification L7 (the CC's preferred specification). This result is evidence of the fact that the CC's PCA results are largely driven by a single hospital operator (Nuffield Health). See paragraph 2.91, Appendix 2 of HCA's response to the CC's Provisional Findings.

*evident in central London than elsewhere.*"<sup>132</sup> The CC itself pointed over the course of the inquiry out that:

- private hospitals in central London are perceived by patients to be as higher quality than in the rest of the UK;<sup>133</sup>
- NHS PPUs have a greater presence in central London than in elsewhere in the UK, and London PPUs are also typically larger;<sup>134</sup>
- there are differences in patient characteristics between central London, Greater London and the rest of the UK;<sup>135</sup>
- there are differences in the mix of specialties and level of acuity between central London, Greater London and the rest of the UK, for the mix of inpatient specialties;<sup>136</sup> and
- there is a marked difference in patient travel patterns between those attending central London hospitals and those attending Greater London hospitals.<sup>137</sup>

#### Further reasons why the CC's analysis is not conservative

2.20 In addition to applying the PCA results to incorrect categories of patients, the CC's analysis failed to be conservative in at least two further ways:

- it overestimated the change in network effect for the two HCA hospitals it proposed to divest; and
- it treated costs, quality and prices inconsistently in its assessment of the benefits from its proposed divestments.

#### Assumed change in network effect

2.21 The spreadsheet disclosed by the CC on 23 January 2014 showed some of the steps that the CC followed in its calculation of the price benefits. The CC used the 'change in LOCI network effect' to calculate such benefits.<sup>138</sup>

2.22 In the case of the London Bridge Hospital and the Princess Grace Hospital, the CC assumed that the current network effect (as defined by the CC) would dissipate completely. It thus implicitly assumed that the buyer or buyers of these hospitals would be new entrants, i.e. there would be no network effect these buyers could exploit. This assumption is questionable, given the rules provisionally set out in the PDR on the identification of "suitable purchasers".

2.23 The CC stated that "*existing UK hospital operators with facilities in close proximity to the divestiture facilities are unlikely to be considered to be suitable purchasers.*"<sup>139</sup> However, first, the CC has only considered that such an existing UK hospital operator would be

---

<sup>132</sup> Paragraph 2.64 of the CC's Provisional Decision on Remedies

<sup>133</sup> Paragraph 12, Appendix 6.10 of the CC's Provisional Findings

<sup>134</sup> Paragraph 14, Appendix 6.10 of the CC's Provisional Findings

<sup>135</sup> Paragraph 21, Appendix 6.10 of the CC's Provisional Findings

<sup>136</sup> Paragraph 22, Appendix 6.10 of the CC's Provisional Findings

<sup>137</sup> Paragraph 31, Appendix 6.10 of the CC's Provisional Findings

<sup>138</sup> See paragraph 2.3 above

<sup>139</sup> Paragraph 2.85(d) of the CC's Provisional Decision on Remedies

"unlikely" to be considered a suitable purchaser, which says little about what the CC would do in practice. Second, and more importantly, there can be a network effect for a hospital group even if its hospital facilities are not "in close proximity to the divestiture facilities". So the CC has overstated the change in network effect, thus overestimating the price benefit associated with the proposed divestments. It is difficult, however, for HCA to quantify the extent by which the CC has overestimated this effect, not having access to its competitors' data in relation to their patients' addresses. The CC, by contrast, could have performed this analysis, but did not.

### ***Inconsistent treatment of costs, quality and prices in the CC's assessment of the benefits from its proposed divestments***

2.24 As discussed in Annex 2 to HCA's response to the PDR, the CC argued that following its proposed divestments there will be more rivalry, which will spur higher levels of quality and innovation.<sup>140</sup>

2.25 However, higher levels of quality and innovation will be associated with higher costs,<sup>141</sup> which in a competitive market will feed into higher prices. Thus, for the CC's arguments to be internally consistent, the CC would need to recognise that, all else equal, the proposed divestments will lead to a price increase due to the higher levels of quality and innovation the CC expects. The CC has not taken this into account in its calculation of the price benefits, which have been overestimated as a result.

### **The CC's flawed methodology overestimated the price benefits from the proposed HCA divestments by a factor of nearly 10**

2.26 HCA has replicated the price benefit analysis presented in the PDR modifying the assumptions followed by the CC, in line with the discussion in the previous section, as follows:

- excluding overseas patients from the analysis;<sup>142</sup>
- applying the fall in prices estimated by the CC to self-pay patients only; and
- applying the fall in prices estimated by the CC to inpatients only.<sup>143</sup>

2.27 As discussed in footnote 115, the CC appears to have used the PCA coefficient associated to fascia counts (4%, under specification FC7 of the PCA) to estimate the upper bound of the price benefit reported in the PDR. This approach, however, is inconsistent with the CC's own thinking, according to which catchment areas (and consequently fascia counts) do not adequately measure competitive constraints in central London, and are therefore inappropriate.<sup>144</sup> For this reason, the price benefit calculations have been replicated

---

<sup>140</sup> Paragraph 2.112 of the CC's Provisional Decision on Remedies

<sup>141</sup> See paragraph 4.38, Appendix 4 of HCA's response to the CC's Provisional Findings for an explanation of why the provision of high quality care and higher levels of innovation are positively related to cost levels.

<sup>142</sup> The proportion of overseas patients (excluded from the analysis reported above) has been calculated using the underlying data reported in the spreadsheet disclosed by the CC on 23 January 2014.

<sup>143</sup> The breakdown by inpatient, outpatient and day-case has been calculated using HCA's patient database, as the spreadsheet disclosed by the CC did not include the breakdown by patient type for each payor type.

<sup>144</sup> Paragraphs 5.59-5.68 of the CC's Provisional Findings

considering the price-concentration relationship estimated in the CC's PCA specification in which network LOCI is used as the local concentration variable.

- 2.28 The results, reported in Table 1, show that by applying the CC's preferred estimate from its PCA only to those patients that fell within the scope of the CC's PCA, the overall estimated price benefit from the proposed divestments of the London Bridge Hospital and Princess Grace for inpatients is about £0.98m per year. By contrast, the CC's base-case scenario estimated a price benefit which was nearly 10 times as large (£9.53m).
- 2.29 As discussed above, HCA's estimates may still overstate the price benefits given that the purchasers of the two hospitals the CC proposed for divestment may own other hospitals in the UK which may generate a positive network effect for them (so that the differences in network LOCI of [X] and [X] before and after the proposed divestments may have been overstated).<sup>145</sup>

**Table 1:** Estimated price benefit of proposed divestments of Princess Grace and London Bridge Hospitals obtained correcting the CC's methodology, using the CC's preferred PCA estimate of 3% (for a 20 percentage point change in weighted average market share), £m

	Difference in network LOCI pre- vs. post-divestments	Price variation resulting from change in network effect	Price benefit on UK self-pay inpatients, £m
London Bridge	[X]	[X]	[X]
Princess Grace	[X]	[X]	[X]
Wellington	[X]	[X]	[X]
Portland	[X]	[X]	[X]
Lister	[X]	[X]	[X]
Harley Street Clinic	[X]	[X]	[X]
<b>Total</b>			<b>0.984</b>

Source: HCA's calculations on the basis of the spreadsheet disclosed by the CC on 23 January 2014.

### The PCA was performed with severe data limitations and featured serious methodological flaws

- 2.30 The PCA suffers from a number of methodological flaws which undermine the causal relationship between local market concentration and self-pay prices even in relation to the

<sup>145</sup> HCA also pointed out (see paragraph 2.25 above) how according to the CC's own thinking that the divestments will generate more rivalry and thus higher quality and innovation also suggests that costs will increase post-divestments, putting upward pressure on prices. This is a further reason why the price benefits stated above may have been overestimated.

narrow scope of the supply of private healthcare that it sought to investigate. These flaws include:<sup>146</sup>

- completely omitting data for PUs and independent hospitals from the analysis. In addition to undermining the applicability of the PCA results to central London (as discussed in para. 2.17), this omission affects local market concentration figures (overstating HCA's market share) and limits the sample size in a biased way. The CC acknowledged that its PCA was carried out in spite of 55% of the total number of London invoices not being available for the analysis;
- inadequately controlling for key factors such as (episode) quality (e.g. technology differences), complexity (e.g. co-morbidities and expectation of complications) and costs, therefore leading to bias in the estimate of the relationship between LOCI and price;
- adopting an instrumental variables approach which failed to satisfy the conditions that the CC itself stated such an approach should satisfy, therefore meaning that the estimated effect of LOCI on prices resulting from the IV estimation is also biased; and
- inadequately controlling for the competitive constraint from the NHS and for other 'demand-side' factors, thus also leading to an overstatement of HCA's market share and HCA's putative market power. This conclusion should be apparent to the CC in the light of its view that PUs have a greater presence in London than in the rest of the UK.<sup>147</sup>

2.31 Further, the PCA specification preferred by the CC relies on a novel index (the Logit Competition Index, or LOCI), which has hardly received any attention or scrutiny by either academic economists or competition authorities.<sup>148</sup> This index is based on the logit model which has been widely criticised by academic economists and competition authorities.<sup>149</sup>

2.32 In addition to the above, the CC obtained mixed results across the different PCA models it estimated, thus casting doubts on the robustness of its approach. In particular, in its attempt to estimate the relationship between market concentration and prices, the CC relied on both OLS and IV methodologies and considered LOCI and fascia counts, separately, as concentration measures. Applying the OLS methodology, the CC found that the coefficients of interest on the key explanatory variable were not statistically significant in five out of six of the specifications presented (in the sixth specification, that coefficient was only statistically significant at the 10% level).<sup>150</sup> Put otherwise, in statistical terms, the effect of local market concentration (whether proxied by LOCI or by fascia counts) on the self-pay prices of the four treatments that the CC focused on cannot be distinguished from zero, in five out of six specifications of the model.<sup>151</sup>

<sup>146</sup> Paragraphs 2.24-2.86, Appendix 2 of HCA's response to the CC's Provisional Findings

<sup>147</sup> See paragraph 2.19 above.

<sup>148</sup> Paragraphs 2.53-2.55, Appendix 2 of HCA's response to the CC's Provisional Findings

<sup>149</sup> See, for example, Davis and Garcés (2009) and the chapter by Margaret Slade on "Merger simulations of unilateral effects: What can we learn from the UK brewing industry" in Bruce Lyons, "Cases in European competition policy" (2009).

<sup>150</sup> In regression analysis, the level of statistical significance indicates the probability that the researcher is making a mistake in identifying a relationship between a certain explanatory variable and the dependent variable (i.e. the variable whose variation the researcher is trying to explain) when such relationship is in fact not true. The standard levels of statistical significance accepted in statistical analysis are 1%, 5% and 10%. The lower the level of statistical significance, the lower the probability that the identified correlation is not true, and a 10% level is generally considered very weak evidence of the existence of a relationship.

<sup>151</sup> Paragraph 2.19, Appendix 2 to HCA's response of the CC's Provisional Findings

- 2.33 Applying the IV methodology, the CC found the results that are relied upon in the estimation of price benefits. However, as discussed in HCA's response to the PFs, the IV estimation carried out by the CC relies on inadequate instruments and its results cannot therefore be considered reliable.<sup>152</sup>
- 2.34 The CC has also erred in how it has applied LOCI in its PCA. These flaws include the following (HCA provided the rationale underlying each of the following points in its response to the PFs):<sup>153</sup>
- the LOCI variable is endogenous in the regression model specified by the CC;<sup>154</sup>
  - LOCI as implemented by the CC is biased downwards (i.e. the level of concentration is overestimated);
  - LOCI as implemented by the CC does not conform with the assumptions required for a logit model; and
  - the way in which the CC computed network LOCI is inconsistent with the CC's own use of that measure in the PCA.
- 2.35 These flaws make the PCA's results unreliable and certainly prevent any "causal" interpretation of the PCA coefficients.
- 2.36 Finally, even setting aside the above concerns, the PCA is simply not applicable to central London or to HCA, as set out in paragraphs 2.16-2.19.

## APPROACH 2 IS FUNDAMENTALLY FLAWED

- 3.1 In this section, HCA:
- briefly summarises the second approach followed by the CC in its estimation of the price benefits from the proposed HCA divestments;
  - explains why the IPA is based on incorrect premises – as it analysed episode charges, not insured prices – and sets out a number of further methodological flaws in the London Price Index and in the IPA more broadly that make the CC's analysis unreliable;
  - explains why the CC's London Price Index analysis shows that there is no robust evidence of a statistically significant difference in 'insured prices' between TLC and HCA, so even positing that HCA's 'insured prices' would approach those of TLC following the proposed divestments, one would observe no significant change in HCA prices and thus no price benefits;
  - sets out why, if the CC insisted that it found a difference in 'insured prices' between hospital operators, it would also have to accept the evidence that [§<].

---

<sup>152</sup> Paragraphs 2.69-2.77, Appendix 2 of HCA's response of the CC's Provisional Findings

<sup>153</sup> Paragraphs 2.52-2.68, Appendix 2 of HCA's response of the CC's Provisional Findings

<sup>154</sup> HCA also set out the reasons why the instrumental variable approach proposed by the CC to overcome this problem does not actually address it; see paragraphs 2.69-2.77, Appendix 2 of HCA's response to the CC's Provisional Findings

- critiques the CC's approach for applying the IPA and the London Price Index results to areas that were outside the scope of those analyses, without a robust justification or evidence;
  - sets out why (i) the CC's presumption that, following the proposed divestments, HCA would reduce its prices down to TLC's levels (to the extent that there is a difference, something HCA strongly disputes) is not based on any reasonable economic model and why (ii) the CC's approach was not conservative; and
  - explains why the CC's approach further overestimated the price benefit for final consumers by having assumed a complete pass-through of price benefits from insurers to patients.
- 3.2 The lack of consistent findings of statistical significance in the CC's analysis of the London Price Index - together with methodological issues such as the inability for the CC's analysis to control for differences in quality, cost base and in typical episode acuity - cast very serious doubts on the reliability of the CC's London Price Index (and on the IPA more generally).
- 3.3 This in turn totally undermines the conclusion that HCA's prices are higher than those of its competitors. As such, the CC has significantly overestimated the price benefits from the proposed divestments on the presumption that there was a difference between HCA's prices and those of its competitors (TLC in particular).

#### Summary of the CC's approach

- 3.4 In order to estimate the price benefit resulting from the proposed divestments, the CC applied the average price difference it estimated through its London Price Index<sup>155</sup> (i.e. the estimated difference between what it referred to as TLC's insured 'prices' and HCA's insured 'prices', over a basket of treatments) across HCA outpatient, inpatient and day-case patient revenues, across all six HCA hospitals and across both self-pay and insured patients.<sup>156</sup>
- 3.5 This approach is based on the CC's presumption that, in a competitive market, HCA would reduce its prices to match those of its closest competitor (TLC, according to the CC). The CC argued that this was a conservative approach (or an "underestimate" of the price benefits), claiming that it is possible that under the current (pre-divestments) market conditions TLC is charging higher than competitive prices following HCA's pricing strategy, while, in the CC's view, this may not be the case following the proposed HCA divestments, so that prices would fall further than postulated under Approach 2.<sup>157</sup>

#### The IPA is based on incorrect premises, as it analysed episode charges, not insured prices; further, there are a number of further methodological flaws in the IPA and the London Price Index that make the CC's analysis unreliable

- 3.6 The IPA is not informative of insured prices since, instead of prices, it analysed episode charges. These are subject to considerable variation even within a given CCSD. Such variation can be explained by clinical reasons (e.g. patient characteristics, case complexity) leading to different services being provided (rather than by "price" differences for different episodes). The CC failed to control for these factors in its analysis or recognise them when interpreting its results. As a result, these factors induce high variation in episode charges for

---

<sup>155</sup> Paragraphs 16-23, Appendix 6.12 of the CC's Provisional Findings

<sup>156</sup> Paragraph 15, Appendix 2.5 of the CC's Provisional Decision on Remedies.

<sup>157</sup> Paragraph 15, Appendix 2.5 of the CC's Provisional Decision on Remedies.

each treatment and considerable (unobserved) heterogeneity in the data, therefore making episode charges not suitable for price comparisons.

3.7 Below, HCA sets out a number of major flaws in the CC's methodology used for its IPA and the London Price Index:

- The baskets of treatments used to construct the CC's price indices were too small for a robust analysis in a number of cases and were unrepresentative of HCA's overall treatment mix. The treatments used in the London price index baskets for 2011 only accounted for approximately [X] of HCA's total insured revenues from Bupa and AXA PPP.<sup>158</sup>
- The CC failed to account for other important features of the private healthcare market which affect hospital operators' prices, namely quality and cost differences between operators. As set out in Annex 2 to HCA's response to the PDR,<sup>159</sup> HCA is a high quality operator with a focus on providing complex and high acuity treatments at its predominantly central London facilities, and as such incurs significantly higher costs than other hospital operators. These include TLC, which faces lower costs due to factors such as its charitable status.<sup>160</sup>
- The CC's analysis relied on flawed data, containing invoicing inconsistencies across hospital operators and CCSD coding imperfections.<sup>161</sup>
- The CC's data was also incomplete for the PMIs, with insufficient data over the time period for the majority of PMIs. Some PMIs, such as Cigna, were completely omitted and other PMIs, such as Bupa and Bupa International, incorrectly grouped together.<sup>162</sup>
- The CC also failed to account for retroactive rebates paid to PMIs, which can represent material payments (and effectively are additional price discounts to the PMIs).<sup>163</sup>

3.8 The number and severity of these flaws cast serious doubt over the reliability of the CC's analysis and thus of its findings. As such, HCA submits that the results of such analyses cannot form the basis for the CC's estimation of the benefits from its proposed divestments.

**The CC's London Price Index shows that there is no robust, statistically significant difference between HCA's prices and TLC's prices. As such, the CC erred in computing positive price benefits from its proposed divestments by assuming that HCA's prices would fall and converge to TLC's prices: there would be no robust price drop following the proposed divestments under the CC's own test**

3.9 In relation to the London Price Index, the CC's analysis has not provided sufficient evidence that HCA's "insured prices" are "significantly higher" than TLC's.<sup>164</sup> This is apparent from the CC's serious omission of any test of statistical significance, contrary to its own Best Practice for the submission of economic evidence.<sup>165</sup> If the CC had conducted statistical significance

<sup>158</sup> Paragraphs 4.74-4.85, Appendix 4 of HCA's response to the CC's Provisional Findings.

<sup>159</sup> Paragraphs 1.31-1.34

<sup>160</sup> Paragraphs 4.46-4.48, Appendix 4 of HCA's response to the CC's Provisional Findings

<sup>161</sup> Paragraphs 4.66-4.73, Appendix 4 of HCA's response to the CC's Provisional Findings

<sup>162</sup> Paragraphs 4.93-4.98, Appendix 4 of HCA's response to the CC's Provisional Findings

<sup>163</sup> Paragraphs 4.53-4.63, Appendix 4 of HCA's response to the CC's Provisional Findings

<sup>164</sup> Paragraph 6.247(d) of the CC's Provisional Findings

<sup>165</sup> Paragraph 17 of the *Suggested best practices for submissions of technical economic analysis from parties to the Competition Commission* states that "When presenting the results of statistical and econometric modelling in written submissions, parties should always include the appropriate diagnostic tests results (t-statistics, R<sup>2</sup>, etc).

tests on its London Price Index results, it would have concluded that there is insufficient evidence that HCA's "prices" are "significantly higher" than TLC's.

- 3.10 In the Data Room opened by the CC in October 2013, HCA's economic advisors found that a standard test of statistical significance of the difference between the hypothetical expenditure constructed by the CC for TLC and HCA in 2011 could not reject at 5% significance level the null hypothesis that TLC's episode charges are, on average, the same as HCA's in the case of Bupa.<sup>166</sup> Put otherwise, in statistical terms, TLC's and HCA's episode charges were at the same level. This result is particularly relevant considering that Bupa is the largest PMI in the market (which was also reflected in the database, with Bupa having the largest number of observations).
- 3.11 Moreover, the CC's findings are further undermined when considering the statistical significance of differences in average episode charges for the treatments (CCSDs) in the common basket across TLC and HCA. In particular, HCA's episode charges are not statistically significantly different from TLC's for [redacted]%<sup>167</sup> of CCSDs considered by the CC in its London Price Index in the case of Bupa patients, for 2011, and not statistically significantly different from TLC's for [redacted]%<sup>168</sup> of CCSDs in the case of AXA PPP patients, for 2011.<sup>169</sup>
- 3.12 In sum, the CC fundamentally erred in concluding that HCA's prices are higher than those of TLC's by a certain percentage; there is no robust evidence to that effect, due to lack of consistent findings of statistical significance in the CC analysis. The CC therefore fundamentally erred in using such supposed price difference to compute the price benefits from its proposed HCA divestments.

**Even if the CC insisted that it found a difference in 'insured prices' between hospital operators, this cannot be imputed to different degrees of market power**

- 3.13 Notwithstanding HCA's disagreement with the CC's assessment of 'insured prices' and with the CC's finding of any robust difference between HCA's prices and those of its competitors, any such difference cannot be imputed to different degrees of market power of the hospital operators.
- 3.14 The HCA price indices the CC constructed for individual PMIs (in the context of the London Price Index) varied considerably over time. Likewise, the CC's price indices comparing HCA to BMI, Spire, Nuffield Health and Ramsay (in the context of the National Price Index) also varied significantly over time.<sup>170</sup> These findings are inconsistent with any evidence of how the drivers of bargaining power have changed over the same period. Specifically they are inconsistent with hospital ownership or concentration being drivers of bargaining power.
- 3.15 Further, if the CC believed in the robustness of its insured price analysis, it would also need to accept that [redacted]. As such, the CC erred in provisionally concluding in its PDR that by

---

*Unless the CC is able to understand both the statistical and economic significance of the reported results it will not be able properly to evaluate the importance of modelling output and the results will be less influential."*

<sup>166</sup> Paragraph 4.108, Appendix 4 to HCA's response of the CC's Provisional Findings

<sup>167</sup> HCA's economic advisers submitted this confidential figure as part of the confidential version of Appendix 4 of HCA's Response to the CC's Provisional Findings.

<sup>168</sup> HCA's economic advisers submitted this confidential figure as part of the confidential version of Appendix 4 of HCA's Response to the CC's Provisional Findings.

<sup>169</sup> Paragraphs 4.108 – 4.110 of Appendix 4 of HCA's response to the CC's Provisional Findings, sets out more detail on this analysis.

<sup>170</sup> Paragraphs 4.124 and 4.133-4.138, Appendix 4 of HCA's response to the CC's Provisional Findings

lowering HCA's local market concentration the prices charged to PMIs by both HCA (following the proposed divestments) and the purchaser of the proposed divested hospitals would fall from the current levels.

**The CC applied the IPA and the London Price Index results to areas that were outside the scope of those analyses, without a robust justification or evidence**

- 3.16 The insured price index, on the basis of which the CC sought to estimate the price difference between HCA and other hospital operators, was constructed considering revenues from insured inpatient and day-patient episodes.<sup>171</sup> However, in estimating the price benefits from the proposed divestments, the CC applied the estimated price difference to both HCA's hospitals that should be divested according to the PDR, including outpatients and self-pay patients.
- 3.17 In relation to the first aspect, the CC did not provide any robust justification or evidence as to why a 'price' difference estimated on a sample of day-case and inpatient episodes should apply to outpatient episodes as well. Further, as already discussed in paragraphs 2.10-2.11, the CC itself concluded in its market definition assessment that inpatients, day-patients and outpatients are part of different relevant product markets. It is therefore not clear on what basis the CC concluded that the difference in episode charges estimated in the context of the IPA can be extended to the assessment of outpatient services.
- 3.18 In relation to the second aspect, the CC failed to provide any explanation as to why it considered appropriate extending the results of the IPA to self-pay patients. As set out above, this approach is inconsistent with the CC's own view about the nature of competition and constraints to the formation of prices for insured and self-pay patients.<sup>172</sup>

**The CC's presumption that, following the proposed divestments, HCA would reduce its prices down to TLC's levels is not based on any reasonable economic model and the CC's approach was not conservative**

- 3.19 Approach 2 is based on the CC's presumption that, in a competitive market, HCA would reduce its prices to match those of its closest competitor (TLC, according to the CC). The CC argued that this may actually lead to an "underestimate" of the price benefits of the proposed divestments. It claimed that it is possible that under the current (pre-divestments) market conditions, TLC is charging higher than competitive prices following HCA's pricing strategy, while this may not be the case following the proposed HCA divestments, so that prices would fall further than predicted under Approach 2.<sup>173</sup>
- 3.20 The CC cannot claim that its approach was conservative (i.e. that its approach may lead to an "underestimate" of the benefits). The CC's approach would be conservative if (i) it estimated a range of price benefits on the basis of a sound theoretical economic framework and a robust empirical methodology and (ii) it chose as its base-case the lower end of that range of benefits. By contrast, the CC's approach was based on a presumption for which it provided no evidence. First, the CC's approach presumed that any existing price differences (which HCA disputes) do not reflect quality or cost differences but rather reflect some form of market power by HCA. Second, the CC provided no evidence as for why current prices

<sup>171</sup> Paragraph 10, Appendix 6.12 of the CC's Provisional Findings

<sup>172</sup> See paragraphs 2.6-2.9 above

<sup>173</sup> Paragraph 15, Appendix 2.5 of the CC's Provisional Decision on Remedies

would not be at the competitive level. Third, the CC did not set out any mechanism through which such prices would fall following the proposed divestments. Fourth, the CC's assessment completely overlooked other competitors' price levels.

**The CC overestimated the price benefits to final consumers, by assuming a full pass-through of price benefits from insurers to patients**

- 3.21 The price difference estimated by the CC in its insured price analysis should be interpreted, at best, as a price reduction to insurers in the context of the estimation of the price benefit from the proposed divestments. However, the final consumers in the private healthcare market are patients, not insurers. Insurers cannot be treated as "customers" as their incentives are not aligned with those of patients and their price-quality trade-off is different from the one of patients. For this reason, in estimating the benefit from the proposed divestments, the degree of pass-through of the price reduction to final consumers should be considered. Instead, the CC simply applied the price difference (wrongly) identified in the insured price analysis in full when estimating the price benefits under Approach 2.
- 3.22 As discussed in Section 6 of the main body of HCA's response to the PDR, the pass-through of the price reduction from insurers to insured patients is unlikely to be complete. Therefore, even ignoring the flaws of the CC's analysis described above, by ignoring the degree of pass-through the CC inevitably overestimated the price benefit resulting from the proposed divestments of HCA's hospitals.

## APPENDIX 2: ANALYSIS OF LOSS OF ECONOMIES OF SCALE/SCOPE RESULTING FROM THE PROPOSED DIVESTITURE OF LONDON BRIDGE AND PRINCESS GRACE HOSPITALS

### Introduction

- 1.1 HCA's previous submission on the costs of divestment, submitted to the CC on 18 December 2013 provided its initial assessment of the loss of economies of scale and scope arising from the proposed divestiture of the Princess Grace (PG) and London Bridge Hospital (LBH). In that submission, HCA based its calculations of lost economies of scale on its assessment of the impact of divestiture on [REDACTED] relevant central cost code categories which are recharged to each of its facilities<sup>174</sup>. From these codes, HCA conducted a high level assessment of the estimated costs recharged to the PG and LBH that would remain post-divestiture and so have to be absorbed by HCA's four remaining facilities. HCA's submission also included estimates of the loss of economies of scale relating to [REDACTED].
- 1.2 HCA has now expanded its analysis to clearly demonstrate to the CC the extent to which cost savings could be made post-divestiture and hence the degree of lost economies of scale and scope that must be factored into the CC's proportionality assessment. This appendix analyses the central cost codes on a more granular basis than in the analysis included in HCA's December submission to the CC and provides greater detail around central costs, their composition, and the ability for these costs to be scaled back proportionately, or not, following divestment. It also undertakes a more detailed assessment of [REDACTED].
- 1.3 **In summary, based on the analysis HCA sets out below, HCA considers that the loss to economies of scale and scope arising from the CC's proposed divestiture of the London Bridge and Princess Grace hospitals would amount to [REDACTED], comprising of approximately [REDACTED].**

### HCA CENTRAL COSTS RECHARGED TO HOSPITALS

- 1.4 HCA operates a network of six major hospital facilities, each of which has its own management team and staff performing central functions for that individual hospital [REDACTED].
- 1.5 [REDACTED].
- 1.6 [REDACTED].

---

<sup>174</sup> [REDACTED].

NON-CONFIDENTIAL

**Recharged costs – [REDACTED]**

1.7 [REDACTED].

[REDACTED]

[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						[REDACTED]

**Recharged costs – [REDACTED]**

1.8 [REDACTED].



Recharged costs – [REDACTED]

1.9 [REDACTED].

[REDACTED]

[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						

Recharged costs – [REDACTED]

1.10 [REDACTED].

[REDACTED]

[REDACTED]						
[REDACTED]						

NON-CONFIDENTIAL

[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						
[REDACTED]						[REDACTED]

1.11 [REDACTED].

**GROUP COSTS**

1.12 [REDACTED]<sup>175</sup>

1.13 [REDACTED].

1.14 [REDACTED].

---

<sup>175</sup> [REDACTED]



NON-CONFIDENTIAL

[X]			[X]
-----	--	--	-----

### SARAH CANNON RESEARCH INSTITUTE UK COSTS

1.15 [X].

1.16 [X].

### HCA LABORATORIES

1.17 [X].

**Costs that could not be proportionately scaled back**

1.18 [X].

[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]
[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]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

1.19 [REDACTED].

NON-CONFIDENTIAL

1.20 [REDACTED].

1.21 [REDACTED].

**Costs that could be proportionately scaled back**

1.22 [REDACTED].

**TABLE 7: Costs savings post-divestment – [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]

**TOTAL LOSS OF ECONOMIES OF SCALE**

1.23 HCA considers that, as a result of the proposed divestiture, its ongoing losses to economies of scale are [REDACTED]

**TABLE 8: Total ongoing losses to economies of scale**

Category	Loss of Economies of Scale, £
[REDACTED]	[REDACTED]
<b>Total</b>	[REDACTED]