Monitor

Making the health sector work for patients

Cooperation and Competition Panel

Merger of Royal Free London NHS Foundation Trust with Barnet and Chase Farm Hospitals NHS Trust

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EXECUTIVE SUMMARY

1. In February 2013, the Cooperation and Competition Panel (CCP) announced it would review a potential merger between Royal Free London NHS Foundation Trust and Barnet and Chase Farm Hospitals NHS Trust.

2. On 1 April 2013, the staff team of the CCP became Monitor's Cooperation and Competition Directorate. The panel of independent members of the CCP continue to provide independent advice to Monitor on competition related issues. The Office for Fair Trading (OFT) has now taken over responsibility for formal approval of mergers between NHS foundation trusts and NHS trusts, although Monitor does provide advice.[1] Nevertheless, it was decided the CCP would complete its review of this proposed merger.

3. The review considered the effect of the merger on patient choice and competition in standard elective, non-elective, community, outpatient and specialist/tertiary services in north London and the surrounding area.

4. The review concluded that the merged organisation would continue to face a range of competitors for its services, and therefore the merger was unlikely to give rise to material costs to patients or taxpayers as a result of a loss of choice or competition.

5. The review was conducted under the Principles and Rules for Cooperation and Competition, which have been superseded following the coming into force of the Health and Social Care Act 2012.

6. Monitor will send a copy of the CCP's advice to the two trusts involved, the Secretary of State for Health and, as Barnet and Chase Farm Hospitals NHS Trust is not an NHS foundation trust, to the NHS Trust Development Authority.

7. Should the Royal Free London NHS Foundation Trust and Barnet and Chase Farm Hospitals NHS Trust wish to continue with the merger, assurance would need to be provided to the assessment team at Monitor on the financial health of the new trust and how well it would be governed in order to provide high quality care to patients.

INTRODUCTION

8. On 1 April 2013, the CCP staff team became the Cooperation and Competition Directorate of Monitor. The panel of independent members of the CCP continues to provide independent advice to Monitor on competition related issues. In addition on 22 March 2013, the Office of Fair Trading announced that going forward it would review transactions involving NHS Foundation Trusts. Nevertheless it was decided that in the interests of continuity and to

[1] The OFT has published on 22 March 2013 a set of frequently asked questions setting out its approach to jurisdiction for its review of mergers involving NHS organisations: *The OFT's role in reviewing NHS mergers – frequently asked questions*, available the OFT's website: www.oft.gov.uk/shared_oft/press_release_attachments/NHS_FT_FAQs.pdf. See also the Monitor document: *Briefing sheet: Mergers involving NHS trusts and NHS foundation trusts*, published 22 March 2013 and available at: www.monitor-nhsft.gov.uk/home/news-events-publications/our-publications/browse-category/guidance-health-care-providers-and-co-20.

minimise the risk of duplication of effort either for the parties or the authorities the CCP should complete its review of the present transaction under the Principles and Rules.

9. On 20 February 2013 the CCP accepted for review the merger of Royal Free Foundation Trust with Barnet and Chase Farm Trust.[2] The merger met the following key acceptance criteria for a merger case:

   i. the proposed arrangement falls within the scope of Principle 10 of the Principles and Rules; and
   ii. the combined turnover of Royal Free Foundation Trust and Barnet and Chase Farm Trust exceeds the relevant threshold of £70 million.

10. Our administrative deadlines are set out in the CCP's *Rules of Procedure*.[3] Phase I of our review was completed on 19 April 2013. We concluded that there was a realistic prospect that the merger may give rise to material costs to patients and taxpayers and decided to proceed to Phase II. The deadline for completion of our Phase II assessment was 13 August 2013.

11. This report outlines the CCP's Phase II assessment of the consistency of the merger with Principle 10 of the Principles and Rules. It contains the following sections:

- Framework for merger assessment, including the models of competition;
- Parties and the transaction, including details of third party submissions;
- Assessment of merger costs, including market definition and counterfactual;
- Assessment of merger benefits; and
- Advice and recommendations.

FRAMEWORK FOR MERGER ASSESSMENT

12. The framework used by CCP to assess mergers between health care providers is set out in the Principles and Rules and our *Merger Guidelines*.[4] The relevant provision of the Principles and Rules is Principle 10, which provides:

> *Principle 10: Mergers, including vertical integration, between providers are permissible when there remains sufficient choice and competition or where they are otherwise in patients' and taxpayers' interests, for example because they will deliver significant improvements in the quality of care.*

13. The merger was reviewed under Principle 10 of the Principles and Rules as it will result in two trusts, which were previously independent of each other, coming under common management and control. We have not reviewed the process by which Barnet and Chase Farm

[2] The Notice of Acceptance for this case is available at: http://www.monitor.gov.uk/regulating-health-care-providers-commissioners/cooperation-and-competition/casework.
[3] The *Draft Rules of Procedure* are available at: http://webarchive.nationalarchives.gov.uk/20130513202829/http://www.ccpanel.org.uk/reports-and-guidance/corporate-documents.html.
[4] See the CCP's *Merger Guidelines* at: http://webarchive.nationalarchives.gov.uk/20130513202829/http://www.ccpanel.org.uk/reports-and-guidance/index.html.

Trust was selected as the merger partner of Royal Free Foundation Trust for consistency with the Principles and Rules.

14. Our *Merger Guidelines* set out a cost-benefit framework for the assessment of mergers under this Principle.[5] Where a merger may give rise to costs to patients or taxpayers as a result of a loss of choice or competition, these costs will be weighed against any benefits to patients and taxpayers that may arise from the merger. From this analysis, we determine whether the merger is likely to result in a material net cost to patients and taxpayers.[6] We may determine that the merger is inconsistent with Principle 10 of the Principles and Rules if costs to patients and taxpayers only arise for part of the services included in the merger. For example, if costs to patients and taxpayers arise with respect to a single service, or a group of services, provided by just one of the merger parties.

15. Before 1 April 2013 the CCP provided advice on the mergers of NHS organisations which it reviewed to the relevant decision makers who would make the final decision in relation to these transactions. These were the Secretary of State for Health (or any person or organisation acting under delegated authority form the Secretary of State) and, in relation to NHS foundation trusts, Monitor. Following the implementation of the Health and Social Care Act 2012 Monitor considers that the outcome of the review of this transaction is particularly relevant for the Secretary of State for Health, the merger parties, local commissioners and the NHS TDA.

16. Next we explain the background of patient choice and competition in the provision of hospital-based services.

MODELS OF COMPETITION

17. The merger takes place in a broader policy context of patient choice and competition that exists in the provision of health care. This context forms the background to our assessment of how patient choice and competition are likely to be affected by the merger.

18. Since 2000 a series of reforms to the NHS have aimed to strengthen patient choice, particularly in relation to elective care, with the aim of creating stronger incentives for health care providers to improve access to services and the quality of care they provide. Reforms have emphasised patient choice and competition as key drivers to improve efficiency and outcomes for patients. A patient's right to choose was enshrined in the NHS Constitution in 2009.

19. In general there are two models of competition in health care services. First, there is competition for the market, where service providers compete for the right to provide services

[5] A merger might give rise to costs to patients and taxpayers if it diminishes patient and commissioner choice and competition. As set out in the *Framework for Managing Choice and Competition,* published by the Department of Health on 16 May 2008, patient choice and competition in the NHS can be expected to improve quality and safety in service provision, improve health and well-being, improve standards and reduce inequalities in access and outcomes, lead to better informed patients, generate greater confidence in the NHS, and provide better value for money.

[6] Where we find that there are no costs to patients or taxpayers arising from a merger, we will not necessarily critically evaluate patient or taxpayer benefits ascribed to the merger by the merger parties.

across a Clinical Commissioning Group (CCG) area or other locality, generally on an exclusive basis. Prices are agreed between the commissioner and the provider (either on the basis of a competitive procurement exercise or by way of bi-lateral negotiation). Payment may be based on cost/volume contracts, where the provider pays for treatment on a patient/per episode of care basis and does not pay for treatments not provided, or on block contracts, where the provider pays a lump sum for the provision of a particular category of treatments. Competition for the market often occurs in community services, mental health services and tertiary services (which may be competitively tendered by NHS England at the regional or national level).

20. Secondly, there is competition in the market, where patients (with advice from clinicians) can choose between competing providers of the same service. The 'Any Qualified Provider' (AQP) model is an example of where competition occurs in the market, where patients may choose between any NHS or independent sector provider in England that:

- is registered with the Care Quality Commission (CQC);
- has a CCG- or nationally-let contract; and
- is willing to provide care at the NHS tariff.[7]

21. Within the NHS, remuneration under an AQP model is often based on national or local tariffs for the relevant services. Competition in the market and competition for the market are not necessarily mutually exclusive. For example, commissioners may hold a competitive process to select a range of providers with whom they wish to contract; patients may then be able to choose which of these providers they wish to use.

22. Patients' ability to choose between providers for standard elective treatment is underpinned by a number of systems. Key elements include:

- the Choose and Book system, which allows patients (and General Practitioners (GPs) acting on patients' behalf) to select their provider of choice and book their first outpatient appointment with that provider;
- Payment by Results (PbR), which remunerates providers for care they provide according to patient treatment volumes through a framework of fixed tariffs covering a range of procedures; and
- NHS Choices, which provides performance information on each provider to assist patients in selecting their preferred provider.

23. GPs act as gatekeepers who assess the needs of patients and make referrals to secondary care for those patients that cannot be treated by primary care clinicians. The system allows all patients to choose the provider of their first outpatient appointment. Patients choose between NHS trusts (including foundation trusts) as well as nationally-contracted independent sector providers of standard elective care.

[7] The "Any Qualified Provider" model was previously known as the "Any Willing Provider" model.

THE PARTIES

24. Royal Free Foundation Trust provides hospital-based services and tertiary care acute services. It provides these services from The Royal Free Hospital in Hampstead, London, which has 622 beds. In 2012/13, Royal Free Foundation Trust had operating revenue of £577 million. Royal Free Foundation Trust also provides maternity and emergency services. It serves a population which predominantly covers the areas of Barnet CCG, Camden CCG, Islington CCG and Haringey CCG, as well as parts of Enfield CCG and East Brent CCG. Royal Free Foundation Trust also operates a number of clinics and other services in other north London hospitals.[8]

25. Royal Free Foundation Trust is registered without conditions by the CQC. We contacted the CQC to learn if there were any clinical issues at Royal Free Foundation Trust that we should be aware of and we were told that there were not.

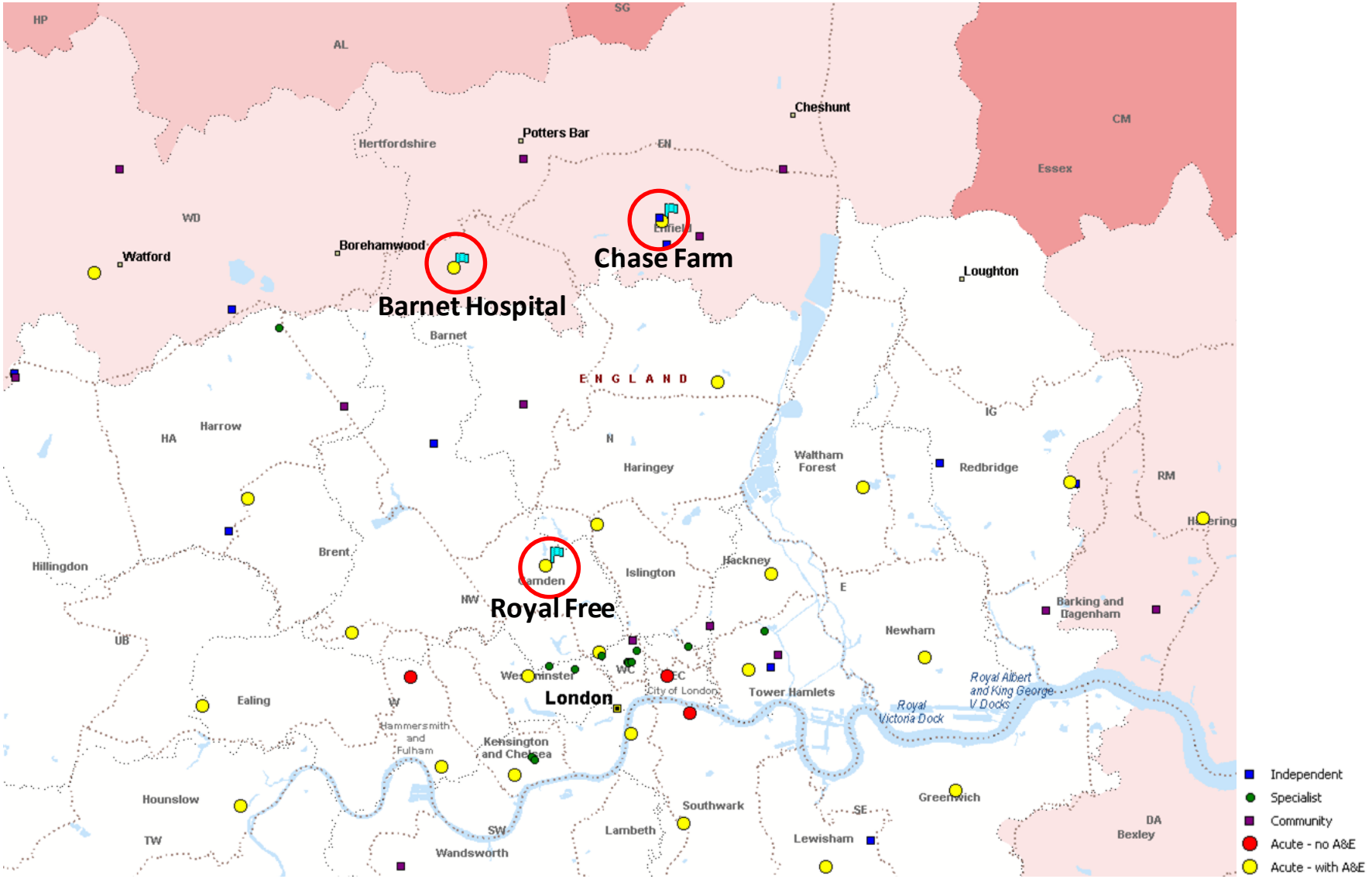
26. Barnet and Chase Farm Trust was formed in 1999 from the merger of Chase Farm Hospitals NHS Trust and Wellhouse NHS Trust. Barnet and Chase Farm Trust provides hospital-based services, maternity services and emergency services from Barnet Hospital, which has 436 beds. Barnet and Chase Farm Trust also provides secondary care acute, maternity and emergency services from Chase Farm Hospital. As part of the commissioner-led Clinical Review of the Barnet, Enfield and Haringey Strategy (BEH Clinical Strategy) Chase Farm Hospital's consultant-lead maternity and emergency services are due to be replaced with an urgent care centre. In 2011/12, Barnet and Chase Farm Trust had operating revenue of £351 million. Barnet and Chase Farm Trust does not provide tertiary care acute services.

27. Barnet and Chase Farm Trust is registered without conditions by the CQC. We contacted the CQC to learn if there were any clinical issues that we should be aware of and we were told that there were not. However, we note that Barnet Hospital had an unannounced CQC inspection in May 2013 in which five essential standards of quality were assessed. Due to the length of time patients waited in A&E, Barnet Hospital did not meet what the CQC refer to as Outcome 4 (care and welfare of people who use services). Barnet and Chase Farm Trust has told us that it is working with commissioners to improve services to reduce patient waiting times.

28. A map of the CCG areas where the merger parties provide services is shown in Figure 1.

[8] Royal Free Foundation Trust provides: ophthalmology day surgery and clinics and renal dialysis at Barnet Hospital; a range of medical and surgical clinics and day surgery including: gastroenterology, orthopaedics, urology, ophthalmology, general and vascular surgery, diabetes and endocrinology, paediatrics, lipids, gynaecology, and a dermatology community service as part of North London Community Dermatology Service (NLCDS) at Edgware Community Hospital; midwifery, gynaecology, obstetrics, cardiology, health services for elderly people, memory clinic, elderly falls and chronic fatigue outpatient clinics at Finchley Memorial Hospital; plastic surgery services at Mount Vernon Hospital; renal dialysis and renal clinics at North Middlesex University Hospital NHS Trust; renal dialysis at St Pancras Hospital.

Figure 1: Map showing parties' and competitors' sites



BACKGROUND TO THE TRANSACTION

29. The merger was arranged within the broader policy context that requires the majority of NHS trusts to become NHS foundation trusts by April 2014.

30. In June 2012, a report commissioned by Barnet and Chase Farm Trust concluded that Barnet and Chase Farm Trust would be unlikely to satisfy London Strategic Health Authority (SHA) and Monitor's foundation trust assessment processes. In July 2012 the Board of Barnet and Chase Farm Trust decided to begin a search for a partner organisation. In August 2012 all NHS providers within a 25km radius of Barnet Hospital or Chase Farm Hospital were contacted as potential merger partners. Three NHS providers, including Royal Free Foundation Trust, expressed interest. These organisations were then sent questionnaires, a request to issue a non-binding offer letter and outline partnership proposal. Only Royal Free Foundation Trust responded to this stage of the process.

31. Royal Free Foundation Trust has told us that it is currently in discussions with funding and coordinating parties (local commissioners, commissioning support units, NHS Trust Development Authority, NHS England) to agree sources and volumes of transition and transaction funding.

ASSESSMENT OF MERGER COSTS

32. This section sets out our assessment of whether a merger between Royal Free Foundation Trust and Barnet and Chase Farm Trust would be likely to have a material adverse effect on patients and taxpayers as a result of a loss of patient or commissioner choice and competition. In this section we:

    i. explain the counterfactual to the merger;
    ii. assess the relevant markets within which to assess the merger; and
    iii. assess the potential competitive effects of the merger in the relevant markets.[9]

33. We have considered a range of information when carrying out our assessment. This included internal documents as well as submissions and other evidence provided by the merger parties and third parties (both providers and commissioners).[10] We also analysed travel times to alternative NHS-funded providers to the merger parties, and analysed GP referral patterns (see Appendix 1 and Appendix 3 for details of travel times and an analysis of GP referrals).

[9] This includes, where appropriate, an assessment of barriers to entry and the extent of any countervailing commissioner buying power.

[10] As part of our assessment we reviewed a wide range of documents and evidence provided by the merger parties. These included documents produced prior to the merger (for example minutes from board meetings, strategy documents and market analysis reports), documents produced as part of the work stream to develop the merger proposals as well as evidence provided in response to information requests as part of our review of this merger.

COUNTERFACTUAL

34. To evaluate the effect of the merger on patient choice and competition we assess the competitive situation with the merger against the competitive situation that would be expected absent the merger. This is known as the counterfactual to the merger. The counterfactual enables us to compare the extent of patient choice and competition after the merger with the likely extent of patient choice and competition should the merger not proceed. This allows us to form a judgement on whether the merger would be likely to reduce patient choice and competition.[11]

35. In paragraph 30, we describe how Royal Free Foundation Trust was selected as a merger partner for Barnet and Chase Farm Trust, as part of the NHS foundation trust policy. Current Government policy is that NHS trusts should achieve NHS foundation trust status. We asked the commissioners involved and the NHS TDA what would happen to Barnet and Chase Farm Trust in the absence of the merger. As mentioned in paragraph 30, a report was commissioned by Barnet and Chase Farm Trust which concluded that Barnet and Chase Farm Trust would not achieve NHS foundation trust status as a stand-alone entity. The NHS TDA said that it was also of the view that, absent this merger, it would pursue other forms of transaction solutions, including the possibility of de-merging Barnet and Chase Farm Trust or implementing further commissioner-led service reconfiguration.[12]

36. We note that other potential partner organisations were identified through informal market testing before Royal Free Foundation Trust was identified as the preferred merger partner. These were Barnet, Enfield and Haringey Mental Health NHS Trust and University College London Hospitals NHS Foundation Trust (UCLH). However, the commissioners note that none of these organisations followed their expression of interest with a serious proposal to merge with Barnet and Chase Farm Trust, in the form in which it was marketed.

37. A number of reconfigurations affecting Barnet and Chase Farm Trust are due to take place regardless of the merger, under the Clinical Review of the Barnet, Enfield and Haringey Strategy (BEH Clinical Strategy). We understand the current plans under the BEH Clinical Strategy to be as follows:

    - In November and December 2013, non-elective services are due to be moved from Chase Farm Hospital and an urgent care centre created, though this is dependent on an external assurance assessment in September and full sign off from commissioners.[13] Barnet and Chase Farm Trust told us that as a result of this process, it is likely that North Middlesex University Hospital NHS Trust (North Middlesex Trust) and to a smaller extent Barnet

[11] This approach is consistent with the approach of the Office of Fair Trading and the Competition Commission. See paragraph 4.3.5 of the joint merger assessment guidelines available at www.competition-commission.org.uk/our_role/ms_and_fm/cc2_review.htm.

[12] In 2012, NHS London undertook an analysis on the viability of Barnet and Chase Farm Trust as a standalone NHS foundation trust and concluded that the organisation's financial viability in the long term was not sufficient to be granted NHS foundation trust status. Despite this finding, it decided to market the trust as a 'going (albeit loss making) concern'. This formed the basis of the market testing, which resulted in this transaction.

[13] Maternity outpatient and paediatric outpatient services will continue to be provided at Chase Farm Hospital.

Hospital will provide increased volumes of these services. Chase Farm Hospital will provide elective care, outpatient and diagnostics services and will have an urgent care centre, including children's and older people's assessment units, on its site. It is also due to undergo refurbishment during the BEH Clinical Strategy implementation.

38. We asked the merger parties what they would do if the transaction did not proceed. Royal Free Foundation Trust told us that if the transaction did not proceed, it would continue to provide the services it currently provides independently of other providers and, that it did not expect to stop providing any of the services it currently provides. Barnet and Chase Farm Trust told us that based on its own assessment, it is not financially viable, and therefore it will not be in a position to become an NHS foundation trust as a standalone organisation, either in its current form or after the implementation of the BEH Clinical Strategy. However, there are no indications that Barnet and Chase Farm Trust would stop providing any of the services it currently provides.[14] Barnet and Chase Farm Trust's view is that, absent the merger, it would have to either: (i) merge with an alternative provider; (ii) have a Trust Special Administrator appointed; or (iii) undergo some form of reconfiguration.

39. We therefore conclude that, for the purpose of analysing the effects of the merger on patient choice and competition, the appropriate counterfactual scenario in this instance is a situation in which each of the merger parties would continue to provide the services they currently provide independently of one another.[15]

MARKET DEFINITION

40. We assessed the relevant product and geographic markets within which to examine the merger transactions.

41. The purpose of carrying out a market definition exercise is to identify other services, and the locations from which they are provided, that are effective substitutes for the services provided by the merging organisations. This provides a framework for analysing the competitive effects of a merger by identifying providers of competing services that are capable of providing competitive pressure on the merged organisation.[16] More detail on this analysis can be found in Appendix 2: Market definition.

Product market

42. We identified the services provided by the merger parties and the extent to which the services provided by each merger party overlap. The merger parties overlap in the supply of a range of hospital-based services (which include elective and non-elective services) and the supply of

[14] With the exception of those services that may no longer be provided as a result of the implementation of the BEH Clinical Strategy.
[15] With the exception of those services that may no longer be provided as a result of the implementation of the BEH Clinical Strategy.
[16] This approach is consistent with the approach of the Office of Fair Trading and the Competition Commission. See section 5.2 of the joint merger assessment guidelines available at www.competition-commission.org.uk/our_role/ms_and_fm/cc2_review.htm.

outpatient services. There is a very limited overlap in community services [17] and no overlap in specialised or tertiary services.

43. We next identified which services might be effective substitutes for patients for each of the services provided by the merger parties. Given the nature of the requirements of a patient needing to be treated for a given condition, we defined separate product markets for each treatment. [18]

44. Finally, we clustered specialties into types of service to reflect the fact that most providers provide a range of specialties for which they face very similar constraints. Further details of this analysis can be found in Appendix 2: Market definition.

45. We considered the following service clusters: (i) standard elective services; (ii) non-elective inpatient services; (iii) outpatient services; (iv) community services. [19]

- Standard elective services cluster: the services in this cluster form part of a pathway for a specific admitted patient episode (e.g. first outpatient, inpatient and follow-up outpatient appointments). Services in this cluster are provided by a wide range of providers in England, including NHS trusts, NHS foundation trusts and independent sector providers holding an NHS Standard Acute Contract, that are able to admit patients into hospital. The set of potential competitors includes providers of standard and specialised or tertiary elective and non-elective health care services.

- Non-elective services cluster (i.e. A&E and maternity services): services in this cluster are mainly provided by NHS trusts and NHS foundation trusts with emergency back-up facilities. The set of potential competitors includes providers of standard and specialised or tertiary non-elective health care services.

- Outpatient services cluster: the services in this cluster only include outpatient services which are not linked to a standard elective inpatient episode. [20] The set of potential

[17] In this report, the term "community services" include the services which in the past were typically provided by local Primary Care Trusts and acute services (typically provided by an acute trust) delivered in a community setting to commissioners' specifications (excluding outpatient appointments, which are considered separately).
[18] That is because, on the demand side, a patient's diagnosis will determine the treatment that (s)he requires. For example, the patient is unable to opt to have a replacement knee if (s)he is unsatisfied with the quality of the surgery that a provider of ankle surgery is offering. However, it is our view that supply-side substitution possibilities are likely to exist within each specialty, while remaining less likely to occur between specialties, as a provider of one specialty may not necessarily be able to provide another specialty. More details of our analysis of the relevant services are set out in the Appendix 2: Market definition.
[19] In some cases a provider of a range of procedures within a speciality may not face similar constraints and the same set of competitors across all of its specialties. Some of its procedures may face greater or lesser constraints, for example as a result of the additional Independent Sector capacity funded by commissioners in certain procedures (e.g. endoscopy). In that case we will examine the differences within the competitive effects analysis.
[20] Outpatient services which are provided in conjunction with an admitted patient episode (i.e. pre-operative assessments and follow up appointments) are considered as part of the elective and non-elective service clusters and each individual specialist service.

competitors includes providers of standard and specialised or tertiary elective and non-elective health care services.

- Community health services cluster: services in this cluster are provided around England by providers with backgrounds in different areas of health and social care. The set of potential competitors includes providers of community, primary, outpatient, elective, specialised or tertiary and non-elective health care services.

46. We analysed in more detail those services that might face a different set of competitors from other services in the same cluster (e.g. standard elective inpatient services). In our competitive assessment we took account of the strength of the competitive constraints from providers of different services in the same cluster, which may vary between providers and services.

47. For specialist/tertiary health care services we do not adopt a clustering approach and would analyse each specialist/tertiary service separately. Potential competitors include actual and potential providers of each specialist/tertiary service.[21]

Geographic market

48. We have left the definition of the relevant geographic market open as it is not material to our findings.[22] This is because we have within our competitive effects analysis considered the strength of the competitive constraints posed by all relevant potential rival providers.[23] For the purposes of explaining our competitive assessment we refer to the north London area and have considered the role of providers located within the area, e.g. The North West London Hospitals NHS Trust (North West London Trust), Whittington Hospital NHS Trust (Whittington Trust), UCLH, and North Middlesex Trust. While we consider that providers in this area are likely to be within a relevant geographic market for at least some of the services provided by the merging parties, we note that the location of a provider is important to patients (and GPs). As a result those providers providing the same services in different locations will not be perfect substitutes for one another, and providers that are near one another will generally tend to be more important competitors than those that are not.[24]

49. In the following sections we consider the competitive constraints upon the services provided by the merger parties from their respective hospital sites. The analysis begins with standard

[21] Because the merger parties do not overlap in the provision of specialised and or tertiary services, we only consider the potential impact of the merger on specialist services in the context of the analysis of the vertical effects of the transaction.
[22] This is because we have within our competitive effects analysis considered the strength of the competitive constraints posed by all relevant potential rival providers. Given the nature of the identified product markets and the importance of convenience to patients we are able in this case to identify the potentially relevant rival providers based on the proximity of the facilities of those rivals. We have also considered the possibility of a competitive threat from more distant rivals moving into the area, and we treat these as potential new entrants to the market.
[23] Given the nature of the identified product markets and the importance of convenience to patients we are able in this case to identify the potentially relevant rival providers based on the proximity of the facilities of those rivals. We have also considered the possibility of a competitive threat from more distant rivals moving into the area, and we treat these as potential new entrants to the market.
[24] For the purposes of our analysis we do not distinguish between whether the choice of provider is made by a GP or a patient.

elective services. Subsequent sections set out our analysis of competition for non-elective, outpatient, and community services.

COMPETITION FOR STANDARD ELECTIVE SERVICES IN NORTH LONDON AND THE SURROUNDING AREA

50. For a merger to reduce competition for standard elective services we must first conclude that the merger parties would impose a competitive constraint on each other in the absence of the merger. Where we find such a competitive constraint, we review the strength of the competitive constraint that would remain from other providers that we have identified as operating within the relevant market.[25] This is because, if there are alternative providers that continue to provide an effective competitive constraint on the merged organisation following the merger, the merger will not lead to a reduction in competition. As part of the analysis, we also consider whether there are low barriers to entry or countervailing buyer power that might help maintain an effective competitive constraint.

51. We therefore begin by assessing the evidence of the competitive pressure upon the parties for standard elective services in general (that is across a whole range of services). We then assess whether the merger would be likely to result in a loss of competition for different standard elective services in north London and the surrounding area.

52. Adverse effects on patients may result if a merger removes an important competitive constraint on a hospital site. This is because the merged organisation may, as a result, face significantly less risk that patients or GPs would choose to switch provider if the quality of care that it provided from that site were to deteriorate. In cases where there is reduced competition, a provider has less incentive to make investments to maintain or improve quality above regulated minimum standards and this might have a material adverse effect on patients and taxpayers.

53. To assess the competitive effects of the merger we analysed whether it would be likely to reduce competition for standard elective services in north London and the surrounding area. Royal Free Foundation Trust provides standard elective services from The Royal Free Hospital in the London borough of Camden.[26] Barnet and Chase Farm Trust provides elective services from Barnet Hospital in Barnet and Chase Farm Hospital in Enfield.[27]

54. We therefore assessed the effects of the merger on the competitive constraints faced by the merger parties. We also considered whether there are any differences in the competitive constraints faced by the merger parties at individual hospital sites.

[25] We note that the competitive constraints faced from competitors located within the area will not be equal and will depend on factors such as the preferences of GPs/patients and commissioners.
[26] Royal Free Foundation Trust also provides elective, community and outpatient services from local community hospitals such as Finchley Memorial Hospital, Edgware Community Hospital and others.
[27] Barnet and Chase Farm Trust also provides community and outpatient services from local community hospitals such as Finchley Memorial Hospital, Edgware Community Hospital, Cheshunt Community Hospital and Potters Bar Community Hospital.

Competition between the merger parties' standard elective services

55. We evaluated whether the merger parties provide a competitive constraint on one another for standard elective services. In order to do so, we considered internal documents as well as submissions and other evidence provided by the merger parties and commissioners.[28] We also conducted a GP referral analysis, as described further in Appendix 3: GP referral analysis.

Evidence submitted by commissioners

56. Local commissioners in the north central London area (comprised of Barnet CCG, Enfield CCG, Haringey CCG, Islington CCG and Camden CCG) have not expressed a view as to whether Royal Free Foundation Trust and Barnet and Chase Farm Trust compete against each other for referrals for elective care. They have, however, told us that GPs in their areas offer patients a choice of providers for elective care. In addition, they have submitted a piece of analysis carried out on 2008/09 data detailing, for each hospital in the area, the proportion of the work that practices[29] within a given distance radius refer to each provider,[30] and the proportion of the total activity of each provider that is received from those practices. The activity under analysis included: (i) first outpatient appointments for all referrals; and (ii) first outpatient appointments for a selection of specialties, selected to reflect more standard procedures, which can be carried out by a local hospital. The analysis suggests that Royal Free Foundation Trust attracts referrals from a wide radius and that, on average, those practices that are within a close distance of The Royal Free Hospital do not send all of their referrals to The Royal Free Hospital. The results for Barnet and Chase Farm Trust are more difficult to interpret because the data does not distinguish between referrals to Barnet Hospital or to Chase Farm Hospital which are located in different areas.

57. Furthermore, the commissioners told us that within the north central London area, 27 per cent of first outpatient referrals between February 2012 and January 2013 were sent to Barnet and Chase Farm Trust, 20 per cent to UCLH, 17 per cent to Royal Free Foundation Trust, 16 per cent to Whittington Trust, 11 per cent to North Middlesex Trust and the remaining 10 per cent to other providers. Referral proportions were different for different administrative commissioning areas. These results are summarised in the table below.

[28] As part of our assessment we reviewed a wide range of documents and evidence provided by the merger parties. These included documents produced prior to the merger (for example minutes from board meetings, strategy documents and market analysis reports), documents produced as part of the work stream to develop the merger proposals as well as evidence provided in response to information requests as part of our review of this merger.
[29] These include GP, dental, and optometry practices.
[30] Providers considered in the analysis were Royal Free Foundation Trust, Barnet and Chase Farm Trust, Whittington Trust, UCLH, and North Middlesex Trust.

Table 1: Shares of first outpatient referrals between February 2012 and January 2013 from the north central London administrative commissioning area

	North Central London	Barnet	Enfield	Haringey	Islington	Camden
Barnet and Chase Farm Trust	27	49	60	6	0	0
UCLH	20	8	5	9	41	46
Royal Free Foundation Trust	17	30	3	6	4	37
Whittington Trust	16	3	1	37	42	4
North Middlesex Trust	11	0	25	32	0	0
Others	10	9	7	10	13	13

Source: North Central London commissioners' submission

58. We note that these proportions are not market shares; rather they are shares of referrals from an administrative commissioning area.[31]

Internal documents from the merger parties

59. The merger parties' internal documents and their responses to our questionnaires suggest that they regard each other as substitute providers for a wide range of GP referrals to secondary care. These documents suggest that each of the merger parties perceives the other to be a close, if not its closest, competitor for the whole range of standard elective services.

60. In an internal document[32], Royal Free Foundation Trust says that it routinely monitors its share of GP referred first attendances and has done so in the former Primary Care Trust (PCT) areas of Barnet, Camden, Haringey, Islington, and Brent.[33] For the year 2010/11 it mentions that it lost maternity referrals to Barnet and Chase Farm Trust, based on interpretation of a secondary data source. Royal Free Foundation Trust explained that it regularly monitors its top referring GP practices and regularly visits them to ensure it understands the needs and concerns of these GP practices. In addition, Royal Free Foundation Trust told us that it produces a monthly GP newsletter, which is sent to over 600 local GPs mainly across Barnet and Camden.

[31] Calculating market shares for providers in a set geographic area for product markets where location is as important as it is in elective health care may be of limited value. Two providers in one area with the same volume of activities (and therefore the same market share) might exercise substantially different degrees of competitive pressure on a third provider in the area, depending, for example, on their respective proximity to that third provider. We therefore focus our analysis on the degree of substitutability between services provided at different sites rather than on the volume of activity conducted at each site.

[32] Royal Free Foundation Trust's *Integrated Business Plan*.

[33] On 1 April 2013 the responsibility for commissioning local health services (with the exception of primary care and specialist services) was transferred from PCTs to CCGs.

61. In the same document (mentioned at paragraph 60 above), Royal Free Foundation Trust states that its provision of non-specialist secondary care is most threatened by Barnet and Chase Farm Trust because of Barnet and Chase Farm Trust's lower Market Forces Factor (MFF) tariff uplift. The document states that Royal Free Foundation Trust expects to address this constraint by: (i) implementing cost and price improvements; (ii) maintaining excellent relationships with GPs in Camden and Barnet; (iii) locating services in neighbourhoods; and (iv) reviewing its opportunities for asset management (e.g. better utilisation of their estate).

62. We also reviewed an internal marketing action plan from Barnet and Chase Farm Trust.[34] The document identifies those GPs that refer between 30 and 65 per cent of their activity (first outpatient appointments) to Barnet and Chase Farm Trust. The analysis considers the following PCTs: Enfield, Barnet, Haringey, East and North Hertfordshire, and West Hertfordshire. In each of these areas, the GP practices which refer less than 65 per cent of first outpatient appointments to Barnet and Chase Farm Trust are identified by name, and the specialties with low referral rates are listed. The distance (in miles) to the relevant hospital is also noted, as is any hospital which is closest to the GP practice. No commentary of the results has been provided.

63. In internal documents, Barnet and Chase Farm Trust noted that patients residing in Hertfordshire are prepared to travel into London if waiting times are long at their local provider. In such circumstances, Barnet and Chase Farm Trust thinks that it has an advantage in attracting patients to its services compared to Royal Free Foundation Trust and UCLH because it is easier to reach when travelling from Hertfordshire and it is cheaper for commissioners due its lower MFF.

64. Barnet and Chase Farm Trust also told us that it provides a GP magazine called *The Bridge* to all GP practices in Enfield and Barnet and to 20 practices in Hertfordshire.

65. The evidence received from the merger parties suggests that both merger parties monitor the referrals decisions of GP practices located in the north London area, and identify each other among their main competitors. This suggests that the merger parties compete in order to attract referrals.

Spare capacity

66. The strength of the constraint exercised by one provider upon others will depend upon the capacity available to treat the referrals that it can attract away from rival providers. Accordingly, we next considered the capacity available to each of the merger parties to gauge their incentive to compete in the counterfactual. We found that each merger party had capacity to treat additional referrals and therefore has an incentive to compete to attract those additional referrals and the funding attached to them.

- Royal Free Foundation Trust told us that operating theatres were running on average between 84 and 90 per cent capacity in 2012. Most of Royal Free Foundation Trust's

[34] The action plan was drawn from information that can be obtained from the Dr Foster data analysis tool called HMMv3.

theatres are open from 8:00am to 7:00pm, Monday to Thursday, and from 9:00am to 5:30pm on Friday. Royal Free Foundation Trust has some theatres open 24 hours a day, seven days a week. This means there is physical capacity to extend the opening hours of the operating theatres to expand capacity if funding were made available. Royal Free Foundation Trust also told us that its staffed beds are currently running at capacity. However since this relates to staffed or funded beds rather than physical space, we understand that this capacity could be expanded in a reasonable period if funding were made available (e.g. locums employed to staff the extra beds that are physically available).

- Barnet and Chase Farm Trust told us that its operating theatres utilisation rate is 77 per cent.[35] The majority of Barnet and Chase Farm Trust's operating theatres are open Monday to Friday from 8:30am to 5:00pm. This means there is physical capacity to extend the opening hours of these operating theatres to expand capacity if funding were made available. Barnet and Chase Farm Trust told us that its staffed beds are currently running at capacity. However since this relates to staffed or funded beds rather than physical space, we understand that this capacity could be expanded in a reasonable period if funding were made available (e.g. locums employed to staff the extra beds that are physically available).

Payment mechanism

67. Finally, we considered the payment mechanism faced by each merger party. The strength of the incentive of a provider to attract patient referrals in an area depends, at least in part, upon that provider receiving additional income (in the case of NHS trusts) or making additional surplus (in the case of NHS foundation trusts) from treating additional referrals. Royal Free Foundation Trust told us that it is being paid on a "cap and collar" contract by commissioners in north central London.[36] This was confirmed by commissioners in this area. PbR (see paragraph 22) is used to monitor Royal Free Foundation Trust's activity, but it does not get paid for any activity above the value of its contract (equal to £✂ in 2012/13, ✂). The cap and collar contract with north central London commissioners represented nearly half of the NHS clinical income received by Royal Free Foundation Trust in 2012/13.[37] The rest of its income was received on a per patient treated basis from other commissioners in the area and across the UK.

68. In 2012/13 Barnet and Chase Farm Trust had no cap on contracted activity and was paid on the basis of PbR.[38] However, Barnet and Chase Farm Trust had activity planning assumptions

[35] Barnet and Chase Farm Trust uses the Audit Commission recommendation for monitoring theatre utilisation. This involves the percentage number of lists used, the percentage utilisation of the lists filled and the percentage efficiency of theatre on the day.
[36] A cap and collar contract puts an upper and lower limit on the amount that a commissioner will pay a provider. It represents a move away from a rules-based system for paying providers through Payment by Results, and a return to a system where hospital funding is reliant on historic budgets and the negotiating skill of individual managers.
[37] Royal Free Foundation Trust told us that in 2013/14, less of its NHS clinical income is covered by the cap and collar contract, as more services are now commissioned by NHS England.
[38] Barnet and Chase Farm Trust told us that for 2013/14 it moved onto a block contract for services commissioned by the following CCGs: Barnet, Enfield, Haringey, Camden, and Islington.

included within its contract that identify the expected level of elective activity undertaken as day case or outpatient procedures. The commissioners in north central London told us that if Barnet and Chase Farm Trust undertook a significantly larger volume of procedures (i.e. five to 10 per cent additional day cases or outpatient procedures) compared with the activity plan in its contract, an "Activity Management Plan" would be developed, agreed and implemented to address any significant variance with the Activity Plan within the contract.[39]

69. Block and/or capped PbR for acute services contracting in the north central London region are likely to have resulted in weaker competition in the area than would have prevailed had providers been paid in full for all of the patients they treated (consistent with Department of Health policy on PbR and the Principles and Rules).[40] For the purpose of our present analysis we assumed that in the future, competition between providers will increase in the north central London region as current contractual arrangements that include block or capped payments will be replaced with arrangements in line with the policy of the Department of Health on PbR.

GP referral analysis (merger parties)

70. Our analysis of GP referral data for June 2010 to May 2012 suggests that for most health resource group (HRG) chapters, GPs and patients regard Barnet and Chase Farm Trust as an important substitute provider of services to Royal Free Foundation Trust; and Royal Free Foundation Trust as the most important substitute provider of services to Barnet and Chase Farm Trust. This is consistent with internal documents from the merging parties submitted to us which show that Royal Free Foundation Trust and Barnet and Chase Farm Trust view one another as important competitors. However, the merging parties are not always important substitute providers to one another for HRG chapters for which there is also a specialist provider in the area, e.g. the Royal Brompton and Harefield NHS Foundation Trust (Royal Brompton Foundation Trust) for thoracic procedures and disorders, the Royal National Orthopaedic Hospital NHS Trust (Royal National Orthopaedic Trust) for orthopaedics and musculoskeletal disorders or UCLH for nervous system procedures and disorders.

71. For some HRG chapters, the activity of Barnet and Chase Farm Trust is mainly undertaken on one site (e.g. Barnet Hospital) with little activity on the other (e.g. Chase Farm Hospital). No clear differences in the constraints operated by Royal Free Foundation Trust on Barnet and Chase Farm Trust or by Barnet and Chase Farm Trust on Royal Free Foundation Trust were identified for these HRGs, suggesting that Barnet and Chase Farm Trust's two sites face similar

[39] In the CCP's 2011 *Review of the Operation of Any Willing Provider for the Provision of Elective Care*, the CCP identified 'activity planning' as one of four main mechanisms that commissioners employ to constrain routine elective activity at providers (see paragraphs 97 to 100 of the report, available at: http://webarchive.nationalarchives.gov.uk/20130513202829/http:/www.ccpanel.org.uk/cases/Operation_of_any_willing_provider_for_the_provision_of_routine_elective_care_under_free_choice.html). Recommendations (iii) and (viii) of the report related to this practice.

[40] In the CCP's 2011 *Review of the Operation of Any Willing Provider for the Provision of Elective Care*, the CCP noted that practices which restrict patient choice and competition are in many cases likely to be inconsistent with the Principles and Rules for Cooperation and Competition because of limited offsetting benefits to patients and taxpayers. The report is available at: http://webarchive.nationalarchives.gov.uk/20130513202829/http:/www.ccpanel.org.uk/cases/Operation_of_any_willing_provider_for_the_provision_of_routine_elective_care_under_free_choice.html.

constraints for elective care activity and that the constraint from Barnet and Chase Farm Trust on Royal Free Foundation Trust is similar regardless of the Barnet and Chase Farm Trust hospital at which the elective activity is undertaken.

Conclusion on competition between merger parties

72. The commissioners' submissions, the merger parties' internal documents and their responses to our requests for information suggest that, absent the merger, the two merger parties exert a strong competitive constraint upon one another. These documents suggest that, in general (that is across a wide range of elective services), Barnet and Chase Farm Trust perceives Royal Free Foundation Trust to be its closest competitor, while Royal Free Foundation Trust perceives Barnet and Chase Farm Trust to be its closest competitor together with UCLH. This is reflected in the analysis of GP referral patterns. Accordingly, we conclude that the merger parties are competitors for elective services.

73. In the next section we consider the extent to which other providers would be likely to compete with the standard elective services provided by the merged organisation.

Competitive constraints upon the merger parties' standard elective services from other providers

74. In this section we consider the extent to which other providers would be likely to compete with the standard elective services provided by the merged organisation. The paragraphs below set out our view of the extent of the competitive constraint exercised by other providers on the merger parties based on submissions and internal documents provided to us by the merger parties, local commissioners and other providers. This is used together with the GP referral analysis to indicate the competitive constraint other providers are likely to exert following the merger in each of the markets discussed in this paper.

UCLH

75. UCLH is a significant provider of secondary services and a major provider of tertiary services in north London. A number of its specialised services attract patients from across the whole of England. UCLH has told us that it is paid on a per procedure basis.

76. Barnet and Chase Farm Trust told us that it considers that UCLH is a competitor for standard elective services and specialised services, including dental and cardiac services. It also views UCLH as a strong competitor for ✂, in particular for ✂ services. Royal Free Foundation Trust told us that it perceives UCLH to be its main competitor for standard elective services and many specialist services for referrals from GPs who routinely choose Royal Free Foundation Trust for treatment. Royal Free Foundation Trust's internal documents also indicate UCLH is a major competitor for ✂.

77. In internal documents, local commissioners compare activity levels at UCLH, Royal Free Foundation Trust and Barnet and Chase Farm Trust. This suggests that UCLH, Royal Free Foundation Trust and Barnet and Chase Farm Trust are likely to be strong alternatives for patients and GPs. Furthermore, local commissioners have told us that there is evidence that in Barnet, one of the areas served by Barnet and Chase Farm Trust and to a lesser extent by

Royal Free Foundation Trust, patients choose UCLH because they believe it is accessible and of high quality.

78. UCLH has told us that it views Royal Free Foundation Trust as its strongest competitor. Its submission identifies Barnet and Chase Farm Trust as its fourth strongest competitor, after Royal Free Foundation Trust, Whittington Trust and Barts Health NHS Trust (Barts Trust). Its submission also suggests that it actively competes to provide more standard elective services for patients living in the north London area and to a lesser extent regionally and nationally.

79. Our view is that UCLH is likely to exercise a strong competitive constraint for standard elective services on Royal Free Foundation Trust and, to a lesser but significant extent, on Barnet and Chase Farm Trust.

Whittington Trust

80. Whittington Trust is the geographically closest provider to Royal Free Foundation Trust, located approximately 2 miles away from The Royal Free Hospital. It provides community services and secondary services primarily to people residing in Islington and Haringey. Whittington Trust describes itself as an 'integrated care organisation' because of its range of service provision across acute and community care, its close ties with GPs, local government authorities, and other local providers. As part of its five-year strategy, The Whittington Trust has plans to: (i) further improve its care of older people; (ii) grow and improve maternity services, including investing in a modern neonatal intensive care unit (NICU) and special care baby unit (SCBU); and, (iii) build a new ambulatory care centre to provide rapid diagnosis and treatment. Whittington Trust has told us that it had a block contract for the 2012/2013 period with the commissioners in north central London and is paid on a PbR basis by other commissioners.

81. None of the evidence we received from Barnet and Chase Farm Trust or local commissioners suggested that Whittington Trust is a provider exerting a significant competitive constraint on Barnet and Chase Farm Trust for standard elective services.

82. Royal Free Foundation Trust told us that it views Whittington Trust as an alternative to it for patients who live in south-east Barnet and west Haringey. Internal documents from Royal Free Foundation Trust identified Whittington Trust as a competitor for standard elective services and integrated care services. Despite the geographical proximity of Whittington Trust, Royal Free Foundation Trust identified UCLH and Barnet and Chase Farm Trust as stronger competitors in internal documents submitted to us.

83. This is reflected in Whittington Trust's submission. Whittington Trust has told us that it views UCLH as its strongest competitor with local GPs referring general activity to UCLH in anticipation of the patient requiring further tertiary services. According to Whittington Trust, a GP would refer directly to UCLH when the GP anticipates such a need in order to avoid disruptions to the patient which might arise as a result of transferring provider. Whittington Trust has told us that it considers both North Middlesex Trust and Royal Free Foundation Trust to be the next closest, if weaker, competitors. However, Whittington Trust notes that public

transport constraints in London mean that it is more likely that patients will be willing to travel in the north/south direction as opposed to the east/west direction.

84. Whittington Trust has told us that it is developing more community based integrated care pathways and packages. It has also told us that as a result of this work, it expects some activity to shift to Whittington Trust away from UCLH, Royal Free Foundation Trust, North Middlesex Trust and to a lesser extent from Barnet and Chase Farm Trust.

85. Our view is that it is likely that Whittington Trust exerts a competitive constraint on Royal Free Foundation Trust. However, this constraint is unlikely to be as strong as that exerted by UCLH and Barnet and Chase Farm Trust on Royal Free Foundation Trust. None of the evidence we received suggested that Whittington Trust exerts a material competitive constraint on Barnet and Chase Farm Trust.

North Middlesex Trust

86. North Middlesex Trust is a significant provider of secondary services. It is designated as an Acute Stroke Unit[41] and is a member of the local Trauma Network.[42] North Middlesex Hospital is located in Edmonton, on the border of Enfield and Haringey. In its submission, North Middlesex Trust indicated that it mainly serves patients located in south eastern Enfield and eastern Haringey. North Middlesex Trust has told us that it had a block contract with the commissioners in north central London for the 2012/2013 period and a standard PbR contract with other commissioners.

87. Barnet and Chase Farm Trust has told us that North Middlesex Trust and Barnet and Chase Farm Trust compete for GP referrals for a number of services and it consider that North Middlesex Trust represents a high competitive risk for Barnet and Chase Farm Trust. In contrast, in its internal documents, Royal Free Foundation Trust stated that it does not consider North Middlesex Trust as a major competitor.

88. North Middlesex Trust has told us that it views the following local providers as its key competitors: Royal Free Foundation Trust (including for tertiary services), UCLH (including for tertiary services), Whittington Trust, Barnet and Chase Farm Trust and Whipps Cross Hospital (of Barts Trust). North Middlesex Trust's internal documents included an analysis which benchmarked its performance against these five NHS providers. It also cited independent sector providers the North London Nuffield Hospital (in Enfield)[43] and the King's Oak BMI Hospital (in Enfield) as competitors.

89. North Middlesex Trust's internal documents state that it ✂. In the same documents, North Middlesex Trust notes that it anticipates ✂ after the BEH Clinical Strategy is implemented. It

[41] An Acute Stroke Unit is for patients requiring medical and rehabilitation care following the hyper acute phase (up to first 72 hours post event).
[42] A Trauma Network is the name given to the collaboration between the providers commissioned to deliver trauma care services in a geographical area. A network will have a Major Trauma Centre which treats the most serious cases, as well as other Trauma Units, which provide health care for less seriously injured patients.
[43] We note that Nuffield Hospital North London (Enfield) has been sold to BMI Healthcare and is now called BMI The Cavell Hospital.

expects that ✂ per cent of Chase Farm Hospital's current elective activity could flow to North Middlesex Trust if ✂. This provides some indication that it is likely that the North Middlesex Trust exercises a competitive constraint on Chase Farm Hospital. It is likely that the competitive constraint on Chase Farm Hospital, as well as on Barnet Hospital, will strengthen in future, especially once North Middlesex Trust is no longer remunerated on the basis of a block contract.

90. Our view is that it is likely that North Middlesex Trust exerts a significant competitive constraint on Barnet and Chase Farm Trust. None of the evidence submitted to us suggests that North Middlesex Trust exercises a significant competitive constraint on Royal Free Foundation Trust.

East and North Hertfordshire NHS Trust (East and North Hertfordshire Trust)

91. The East and North Hertfordshire Trust is a multi-site NHS trust, which mainly attracts referrals from Hertfordshire and south east Bedfordshire. It operates from Lister Hospital in Stevenage, Queen Elizabeth II Hospital in Welwyn Garden City, the Hertford County Hospital (a community hospital) in Hertford, and the Mount Vernon Cancer Centre in Northwood.

92. The Lister Hospital is East and North Hertfordshire Trust's main site and it provides acute hospital services mostly to people across Hertfordshire and south Bedfordshire. The Queen Elizabeth II Hospital provides acute hospital services to people in east and south Hertfordshire. East and North Hertfordshire Trust told us that in the future, all inpatient and emergency acute services currently provided from Queen Elizabeth II Hospital will be provided from the Lister Hospital. East and North Hertfordshire Trust told us that it is paid on a PbR basis.

93. Barnet and Chase Farm Trust told us that it competes with East and North Hertfordshire Trust for referrals from GP practices. Barnet and Chase Farm Trust internal documents also indicate that East and North Hertfordshire Trust competes with Barnet and Chase Farm Trust particularly in relation to ✂ and, increasingly, ✂ services. In these documents, Barnet and Chase Farm Trust describes its plans to sustain and further increase its share of referrals from GPs who are located in ✂.

94. East and North Hertfordshire Trust counts Barnet and Chase Farm Trust amongst its competitors. It anticipates that the closure of the A&E department at Queen Elizabeth II Hospital will lead to a proportion of patients receiving emergency inpatient care from The Princess Alexandra Hospital NHS Trust and Barnet and Chase Farm Trust. East and North Hertfordshire Trust also counts West Hertfordshire Hospitals NHS Trust, Luton and Dunstable University Hospital NHS Foundation Trust and Bedford Hospital NHS Trust as competitors, as well as Cambridge University Hospitals NHS Foundation Trust as a competitor to Lister Hospital and the Princess Alexandra Hospital NHS Trust (Princess Alexandra Trust) as a competitor to Queen Elizabeth II Hospital Trust.

95. The documents submitted by East and North Hertfordshire Trust and Barnet and Chase Farm Trust provide evidence that both East and North Hertfordshire Trust and Barnet and Chase Farm Trust actively compete for GP referrals. It is therefore likely that they exert a material constraint on each other, especially on the Hertfordshire border.

96. Our view is that it is likely that the constraint exercised by East and North Hertfordshire Trust on Barnet and Chase Farm Trust mostly applies to referrals on the Hertfordshire border. The evidence we have reviewed does not suggest that East and North Hertfordshire Trust exerts a competitive constraint on Royal Free Foundation Trust.

Imperial College Healthcare NHS Trust (Imperial Trust)

97. Imperial Trust is a significant provider of secondary services and a major provider of tertiary services in north west London. Imperial Trust operates five sites, one of which is St Mary's Hospital located in Paddington.

98. Royal Free Foundation Trust told us that it views St Mary's Hospital as a competitor in the provision of specialised services and as an alternative provider of secondary services for patients who live in Camden, east Brent and north-east Westminster.

99. Our view is that Imperial Trust is likely to exert a competitive constraint on Royal Free Foundation Trust for standard elective services. However, it is limited to particular areas from which Imperial Trust and Royal Free Foundation Trust both attract referrals. We have not received evidence that suggests that Imperial Trust exerts a significant competitive constraint on Barnet and Chase Farm Trust.

North West London Trust

100. North West London Trust is a multi-site trust, which attracts patient referrals mainly from Brent and Harrow. It provides services from Northwick Park Hospital and St Marks' Hospital (a specialist hospital for bowel diseases) located in Harrow and from Central Middlesex Hospital located in Park Royal. North West London Trust told us that in 2012/2013, it was paid under a block contract which contained no adjustment mechanism for higher than expected levels of activity.

101. Royal Free Foundation Trust told us that Northwick Park Hospital is an alternative to it for patients who live in Brent, east Harrow and south-west Barnet. Internal documents from Royal Free Foundation Trust note that a reduction in acute activities at the Central Middlesex Hospital and ✂ have resulted in more patients choosing to be referred to Royal Free Foundation Trust.

102. North West London Trust has told us that it views Imperial Trust as its main competitor, followed by the Hillingdon Hospitals NHS Foundation Trust and Royal Free Foundation Trust. North West London Trust's internal documents also suggest that it actively competes to provide more standard elective services for patients. For example, North West London Trust told us that it conducted studies of GP practice referrals[44] and noted that there were a number of GP practices in Brent and Harrow which referred less than 40 per cent of outpatients to North West London Trust. They noted that a number of the GP practices referred mostly to Imperial Trust or Royal Free Foundation Trust, even when Central Middlesex Hospital or Northwick Park Hospital was closer. North West London Trust told us

[44] They have told us that they no longer buy the Dr Foster data analysis tool because of budgetary considerations.

that as a result, it had arranged meetings with GPs to understand what drove their referrals, and to try to attract those referrals to their own organisation.

103. Our view is that North West London Trust is likely to exert a competitive constraint on Royal Free Foundation Trust. However, it is likely to be limited to patients living in Brent, east Harrow and south-west Barnet. We have not received evidence that suggests that North West London exerts a significant competitive constraint on Barnet and Chase Farm Trust.

BMI Healthcare (BMI)

104. BMI is a national provider of private and NHS-funded health care services including secondary services. In the vicinity of the merger parties, BMI operates the Garden Hospital in Hendon, King's Oak Hospital (on the Chase Farm Hospital site), and the Cavell Hospital in Enfield. These hospitals offer a range of secondary care services to private and NHS patients.

105. The evidence we have received from the merger parties and local commissioners does not suggest that BMI exerts a significant competitive constraint on Royal Free Foundation Trust or Barnet and Chase Farm Trust.

106. BMI told us that it perceives Barnet Hospital and The Royal Free Hospital to be their competitors for NHS-funded services for the activity they undertake at the Garden Hospital. BMI also told us that it perceives Barnet and Chase Farm Trust as one of its competitors for NHS-funded services for the activity it undertakes at King's Oak Hospital and Cavell Hospital.

107. BMI notes that its hospitals are relatively small competitors that do not provide the same range of services as a large NHS hospital. Our view is that BMI is likely to exercise some constraint on Royal Free Foundation Trust and Barnet and Chase Farm Trust for NHS patients. However, this constraint is unlikely to be significant.

Royal National Orthopaedic Hospital NHS Trust (Royal National Orthopaedic Trust)[45]

108. Royal National Orthopaedic Trust is a specialist orthopaedics trust providing a range of orthopaedics and neuro-musculoskeletal health care. It operates from two sites: a main inpatient unit in Stanmore and an outpatient unit in central London.

109. Royal National Orthopaedic Trust is likely to compete for standard elective orthopaedics and musculoskeletal activity with other providers. Based on the evidence received, our view is that it is likely that Royal National Orthopaedic Trust exerts a material competitive constraint on the range of orthopaedics and neuro-musculoskeletal services provided by Royal Free Foundation Trust and Barnet and Chase Farm Trust.

[45] We have not sent a request for information to Royal National Orthopaedic Trust given their narrow area of specialisation.

Royal Brompton Foundation Trust[46]

110. Royal Brompton Foundation Trust is the largest specialist heart and lung centre in the UK. It operates from two sites, Royal Brompton Hospital in Chelsea and Harefield Hospital in Harefield.

111. Royal Brompton Foundation Trust is likely to compete for standard elective cardiac and respiratory activity with other providers. Based on the evidence received, our view is that it is likely that Royal Brompton Foundation Trust exerts a material competitive constraint on the range of cardiac and respiratory services provided by Royal Free Foundation Trust and Barnet and Chase Farm Trust.

Other providers

112. We have also received submissions from the Spire Bushey Hospital, the Spire Roding Hospital and Homerton University Hospital NHS Foundation Trust. Our view, based on the evidence received, is that it is unlikely that these providers exert a significant competitive constraint on Royal Free Foundation Trust or Barnet and Chase Farm Trust.

GP referral analysis (third parties)

113. As noted above, our analysis of GP referral data indicates that for patients or GPs switching their referrals as a result of a hypothetical reduction in the quality of elective services provided at Barnet and Chase Farm Trust or Royal Free Foundation Trust, the other merging party would be an important alternative provider. The analysis also identified UCLH as an important alternative provider especially for Royal Free Foundation Trust, but also for Barnet and Chase Farm Trust. North Middlesex Trust was identified as being likely to be regarded as a substitute for some patients referred to Barnet and Chase Farm Trust, while Imperial Trust and, for some HRG chapters, Whittington Trust were identified as being possibly regarded as substitutes for a smaller subset of patients referred to Royal Free Foundation Trust. Royal Brompton Foundation Trust, Royal National Orthopaedic Trust and UCLH are specialist hospitals that were identified as being likely to be regarded as substitutes for patients referred to the merger parties for the HRG chapters they are specialise in. [47,48]

114. For some HRG chapters, the activity of Barnet and Chase Farm Trust is mainly undertaken on one site (e.g. Barnet Hospital) with little activity on the other (e.g. Chase Farm Hospital). No clear differences in the constraints operated by other providers were identified for these HRGs.

[46] We have not sent a request for information to Royal Brompton Foundation Trust given their narrow area of specialisation.

[47] Royal Brompton Foundation Trust specialises in thoracic procedures and disorders, Royal National Orthopaedic Trust in orthopaedics and musculoskeletal disorders, and UCLH provides specialised care for nervous system procedures and disorders.

[48] We tested the robustness of these results using different assumptions on the referral preferences of the patient and GP. See Appendix 3 for details. The results were robust to these alternative approaches.

Conclusion on competition from third parties

115. Based on documents submitted by the merger parties and third parties, as well as our own analysis of GP referral patterns, our view is that Barnet and Chase Farm Trust is likely to experience a material competitive constraint from North Middlesex Trust. UCLH and East and North Hertfordshire Trust are also likely to exert some constraint on Barnet and Chase Farm Trust. In the case of East and North Hertfordshire Trust, this is likely to be limited to patients living and working on the Hertfordshire border. Other providers such as BMI's King's Oak Hospital may exert a competitive constraint on Barnet and Chase Farm Trust although it is unlikely to be significant.

116. We have also reached a view on the competitive constraint on Royal Free Foundation Trust from other providers based on the submissions and internal documents received from the merger parties and third parties as well as our own analysis of GP referral patterns. These suggest that UCLH exerts a material competitive pressure on Royal Free Foundation Trust. Whittington Trust is also likely to exert a material competitive constraint, albeit a less strong one. Imperial Trust and North West London Trust are likely to exert a significant competitive constraint on Royal Free Foundation Trust, but only in areas where the sets of GPs from which they attract patients overlap.

Prospects of entry or expansion

117. In this section we consider the likelihood of new providers entering into the provision of standard elective services, and of existing providers expanding the provision of standard elective services in the north London and the surrounding area in competition with the services provided by Royal Free Foundation Trust or Barnet and Chase Farm Trust.

118. Barriers to entry into the provision of elective services include the cost of building a new purpose-built facility with limited sell-on value from which to provide elective services (in the order of tens of millions of pounds to set up an independent sector treatment centre[49]), and the need to locate the facility near to a hospital with emergency back-up facilities.

119. We asked providers and commissioners in the area whether they expected any new entrants or expansion of existing services. Although some providers told us that there might be entry for some small services, both commissioners and providers told us they were not expecting new entry for larger services. Our view is therefore that there are significant barriers to entry and expansion into the supply of elective services in north London and the surrounding area and so there are unlikely to be any new material competitive constraints that we need to reflect in our analysis.[50]

[49] See for example the figures cited in: www.hsj.co.uk/news/acute-care/nhs-to-become-a-landlord-for-private-treatment-centres/5004595.article.

[50] We are aware of Whittington Trust's plans to expand its maternity and endoscopy services and invest in a NICU, SCBU, and ambulatory care centre. It might increase competitive constraint the Whittington exerts on the merger parties. However, this does not materially affect our analysis.

Countervailing buyer power

120. In general, we consider that commissioner buyer power would be unable to counter the reduction in competition that a merger might otherwise create.[51] For example we expect that even a strong buyer would still find that a reduction in competition between providers reduces its bargaining strength (as its dependence on a single provider increases) and therefore reduces its ability to achieve its desired outcomes. Similarly we note that local commissioners are unable to provide services in-house, and are unlikely to be in a position to sponsor entry given the cost pressures that the NHS faces over the coming years. Therefore, unless there are particular circumstances in a case that mean that countervailing buyer might limit the reduction in the competitive constraints upon the merged provider, we consider that the countervailing buyer power will not limit the loss of competition that we identify above.

121. We have not been able to identify any particular circumstances in this case that might limit the reduction in the competitive constraints upon the merged provider. Accordingly, we consider that commissioners would not be in a position to counter any reduction in competition that the merger would otherwise be likely to create.

Conclusions on competition for standard elective services

122. Our analysis of internal documents as well as submissions and other evidence provided by the merger parties and third parties (both providers and commissioners) and of GP referral patterns suggests that the merger is likely to remove the strongest competitive constraint on the standard elective services that are provided by Barnet and Chase Farm Trust, and remove one of the two strongest competitive constraint on the standard elective services that are provided by Royal Free Foundation Trust (UCLH being the other). Our analysis indicates that following the merger, a strong competitive constraint would remain from UCLH especially on Royal Free Foundation Trust but also on Barnet and Chase Farm Trust. UCLH is a particularly strong competitor in north London and therefore is likely to continue to effectively constrain other providers. North Middlesex Trust is likely to continue to exercise a strong competitive constraint on the standard elective services that are provided by Barnet and Chase Farm Trust. Barnet and Chase Farm Trust also faces relevant competitive constraints from a range of providers, in particular for referrals it attracts from GPs located further from its main sites. These providers will continue to constrain the behaviour of the merged parties in attracting referrals from patients from these areas.

123. For the reasons outlined above, taking into account the range of available evidence, our analysis indicates that the remaining constraint from third parties is likely to be sufficient to ensure that the merged organisation continues to face competition in the provision of standard elective services.

[51] We would expect that the commissioners may be able to exert buyer power if the merger parties are largely dependent on the volumes that the commissioner buys from them.

124. Accordingly, we conclude that there is likely to be sufficient patient choice and competition post merger in respect of standard elective services provided from The Royal Free Hospital, Barnet Hospital and Chase Farm Hospital.

COMPETITION FOR NON-ELECTIVE SERVICES

125. We next consider whether the merger would be likely to reduce the extent of competition between providers of non-elective services in north London and the surrounding area. In particular, we consider whether the merger would be likely to reduce the merger parties' incentive to maintain and improve the quality and/or efficiency of the non-elective services provided at The Royal Free Hospital and Barnet Hospital. We also explain why we did not carry out this analysis in relation to Chase Farm Hospital.

126. Standard non-elective services are non-specialist health care services provided in unplanned circumstances. These include consultant-led maternity and A&E services (but exclude major trauma which is a specialist service).[52] They also include any services (e.g. urology) that are provided to patients after an unscheduled admission. Such services are usually provided by NHS trusts and NHS foundation trusts.

127. Royal Free Foundation Trust currently provides standard non-elective services from its The Royal Free Hospital site. Barnet and Chase Farm Trust currently provides standard non-elective services from Barnet Hospital and Chase Farm Hospital. A commissioner-led transfer of emergency and maternity activities away from Chase Farm Hospital is due to take place in November 2013.[53] Consequently, we have not considered the effect of the merger on the provision of non-elective services from Chase Farm Hospital.[54] We focus the analysis on whether the proposed transaction is likely to lead to a reduction in the incentives of the merger parties to maintain and improve the quality and/or efficiency of their standard non-elective services provided from The Royal Free Hospital and Barnet Hospital.

128. Our analysis focuses on the effect of the merger on commissioner choice. As patients cannot choose a provider of non-elective care services, commissioners choose which hospital sites they want to provide these services for the local population.[55] Competition between providers of standard non-elective services arises where providers perceive there to be a realistic prospect that commissioners will review and possibly change from whom, and in some cases from how many providers, they purchase these services in the future. For example, a commissioner could decide to run a tender to identify a suitable organisation to provide non-

[52] With the exception of pre-planned caesarean sections, consultant-led maternity services are non-elective services. For the purposes of our competitive assessment it has not been necessary to undertake separate analyses for A&E and maternity services. This is because consultant-led maternity services are generally only provided on sites with an A&E service and midwife-led maternity services are not always provided on sites alongside a consultant-led maternity service.
[53] As part of the plans under the BEH Clinical Strategy.
[54] www.bcf.nhs.uk/about_us/beh-strategy/index; www.enfieldccg.nhs.uk/about-us/beh-clinical-strategy.htm
[55] However, we note that patients who do not arrive by ambulance will have a choice as to which hospital they seek non-elective treatment.

elective ophthalmology services from a given site.[56] Alternatively, a commissioner could decide to reduce the number of non-elective ophthalmology departments in a given locality.

129. For each of the sites on which it provides non-elective services, we expect that a provider of non-elective services will focus its expenditure on maintaining and improving the quality of its non-elective services in order to maximise: (i) patient welfare; (ii) its surplus of revenue over costs (i.e. minimising costs); and (iii) the probability that the commissioner will continue to purchase these services from it in the future. As more expenditure on particular services, or the time and resources spent designing those services, is associated with higher quality services at a given hospital site, the provider faces a trade-off when setting its level of expenditure. On the one hand, it will want to increase expenditure to maximise patient welfare and increase the probability that the commissioner will continue to purchase these services from it on a given site. On the other hand, it will need to control expenditure in order to maximise the surplus of the NHS foundation trust (or keep within its allocated budget in the case of a trust) and help keep the organisation remaining financially viable.

130. In the rest of this section we set out our analysis of the effect of the merger on competition between providers of non-elective services. We assess the effect of the merger on the commissioner's choice of: (i) provider(s); and (ii) location(s) from which services should be provided.

Threat of switching non-elective services away from a provider

131. Commissioners may be able to competitive pressure over their local non-elective provider if commissioners have the option of switching their contract to purchase non-elective services from the incumbent provider to a different provider. However, this pressure will only exist if commissioners are likely to give consideration to the option.

132. The evidence we have received (e.g. options appraisals or board minutes) does not suggest that commissioners have considered or would consider entering into a new contract for non-elective services with a new provider.

Threat of discontinuing all or a subset of non-elective services from a site

133. A merger between providers of non-elective services may reduce the merged organisation's incentive to invest to maintain and improve the quality of its non-elective services at each of its sites above CQC minimum standards. This is because before the merger, when making expenditure decisions, each merger party would be likely to have taken account of the revenue it would lose if commissioners decided to reduce or stop purchasing non-elective services from it.

134. Post merger it is likely that volumes will be diverted to other sites within the merged organisation (simply because the merged organisation has more sites in the area). Therefore, the merged organisation will face a lower risk of losing revenue as a result of commissioners

[56] This might be a new site or an existing site. For example Moorfields Eye Hospital NHS Foundation Trust provides both elective and non-elective ophthalmology at a number of hospitals, and Circle provide a range of non-elective services from Hinchingbrooke Hospital.

diverting volumes from one site to another. As a result, the merged organisation may not be prepared to incur the same level of expenditure on maintaining or improving the quality of non-elective services at its sites as it would in the absence of the merger.

135. To assess the effect of the transaction on competition between providers of non-elective services in north London and the surrounding area we therefore analysed:

- whether there is a realistic prospect that in the future, commissioners may stop commissioning some or all non-elective services from hospital sites operated by the merger parties; and
- the proportion of revenue the merger parties could expect to retain in the event that some or all of the non-elective services at one of their hospital sites were decommissioned.

Risk of commissioners changing how they commission standard non-elective services

136. Commissioners may seek to change how services are provided across an area. This can involve varying degrees of service change, from discontinuing a single non-elective service to the closure of all A&E services on a site.

137. The BEH Clinical Strategy is the current plan for reconfiguring A&E services drawn by the commissioners in north central London. Under this reconfiguration, the A&E at Chase Farm Hospital is due to be replaced by an urgent care centre, older people's assessment unit and paediatric assessment unit. Chase Farm Hospital will continue to provide children's outpatient care and antenatal and postnatal care but will not have facilities for delivery. The changes are planned to take effect from November and December 2013. The commissioners have told us that the reconfiguration is expected to deliver to the proposed timetable. However, in September 2013, commissioners will take a final decision on the timing of the implementation of the BEH Clinical Strategy, based on the readiness of the local health economy to implement the reconfiguration.

138. Further re-assessments by commissioners of how non-elective services are provided in the area and the resulting reconfiguration(s) of non-elective services, especially with respect to individual service lines, continue to be a realistic prospect in the central north London area.

139. We therefore concluded that it was more likely than not that the operators of Barnet Hospital and The Royal Free Hospital would perceive there to be a realistic prospect that commissioners may seek to review and possibly change how standard non-elective services are provided across north London. We would expect that such a review would include considering whether to continue purchasing standard non-elective services from both Barnet Hospital and The Royal Free Hospital. The prospect of reconfiguration faced by providers ensures that they have an incentive to invest to maintain and improve the quality of their non-elective services. The remainder of this section explores whether this incentive is removed as a result of the merger.

Revenue impact from commissioners changing the range of standard non-elective services they commission

140. In the following paragraphs we examine the closeness of competition between Barnet and Chase Farm Trust and Royal Free Foundation Trust in relation to the provision of non-elective services, as well as competitive constraints imposed on Barnet and Chase Farm Trust and Royal Free Foundation Trust by other providers.

141. We do this by examining the expected diversion of patients from Barnet and Chase Farm Trust to Royal Free Foundation Trust and from Royal Free Foundation Trust to Barnet and Chase Farm Trust in order to model what would happen to non-elective revenues of the merger parties should the non-elective department at Barnet Hospital or The Royal Free Hospital be decommissioned by local commissioners. This indicates the extent to which the merger parties place a competitive constraint on each other pre-merger and so identifies the constraint which would be lost as a result of the merger.

142. Since patients using non-elective services require urgent treatment we assume that they would attend their nearest hospital (by drive time).[57] Therefore, if a non-elective service at Barnet and Chase Farm Trust were to be closed, we assume that patients would go to, or be transferred to, the next nearest hospital providing these services.[58] Using the location and size of GP practices (in terms of registered patients) as a proxy for the local population, we first identified the closest provider to Barnet Hospital and The Royal Free Hospital and then identified which provider of non-elective services was the next closest.[59]

[57] Proximity might be affected by the time of travel and extent of any disruptions on the networks, especially in central London. We considered the minimum time, assuming no traffic.
[58] Certain patients may walk in to their closest A&E, and then be transferred to their third closest non-elective department, rather than their next closest. This suggests that our estimate of diversion is a lower bound as it fails to capture such transfers.
[59] Measured by private transport travel time.

Impact of a discontinuation of non-elective services at Barnet Hospital

143. For GP practices closest to Barnet Hospital, we found that Chase Farm Hospital, which is part of the same NHS trust as Barnet Hospital, was the next closest provider of standard non-elective services for 29 to 32 per cent of registered patients (see Table 2 below).[60] The Royal Free Hospital was the next closest hospital for 1 to 3 per cent of registered patients. The remaining 65 to 70 per cent of patients would most likely divert to hospital sites operated by other providers.

Table 2: Next closest provider of non-elective services after Barnet Hospital

Hospital site	Registered patients, min-max	Per cent, min-max
Chase Farm	103,469 – 115,485	29 – 32
Northwick Park	55,337	16
Lister	49,358	14
North Middlesex	44,970 – 51,120	13 – 14
Whittington	41,267 – 54,525	12 – 15
Watford	38,466 – 47,437	11 – 13
Royal Free	2,276 – 10,992	1 – 3
Total	355,875	100

Source: CCP analysis

144. If the BEH Clinical Strategy is implemented in the expected timeframe, Chase Farm Hospital will no longer provide standard non-elective services from November 2013. We therefore considered where patients would go if Chase Farm Hospital was not an available option for patients located closest to Barnet Hospital. Under this scenario, we found that the second closest provider for 31 to 32 per cent of registered patients was North Middlesex Hospital. Watford Hospital was next closest for 20 per cent of registered patients, and the Lister Hospital was second nearest for 16 per cent of registered patients (see Table 3). For 28 to 32 per cent of registered patients the second closest hospital was Northwick Park Hospital, Whittington Hospital or Princess Alexandra Hospital, while The Royal Free Hospital was the next closest hospital for 1 to 3 per cent of registered patients.[61]

[60] The analysis shows a range of percentages. This is because, in the event that two hospital sites were equally distant from a GP practice, we analysed different scenarios, one considering one hospital to be the closest, the other with the other hospital as the closest.

[61] When we analysed the most likely patients flow pattern to other providers should the A&E department at Chase Farm Hospital close, we found that our results were in line with the analysis of the assumed activity transfer by Barnet and Chase Farm Trust and North Middlesex Trust. See: www.enfieldccg.nhs.uk/Downloads/BEH%20Clinical%20Strategy/Implementation%20of%20the%20BEH%20clinical%20strategy.pdf.

Table 3: Next closest provider of non-elective services after Barnet Hospital (Chase Farm Hospital not included)

Hospital site	Registered patients, min-max	Per cent, min-max
North Middlesex	124,211 – 128,752	31 – 32
Watford	81,192	20
Lister	64,932	16
Northwick Park	55,337	14
Whittington	41,267 – 54,524	10 – 14
Princess Alexandra	14,794	4
Royal Free	2,276 – 10,992	1 – 3
Total	397,266*	100

Source: CCP analysis

**Removing Chase Farm Hospital from the analysis increases the number of GP practices which are closest to Barnet Hospital.*

Impact of a discontinuation of non-elective services at The Royal Free Hospital

145. For GP practices closest to The Royal Free Hospital, we found that Whittington Hospital was the second closest provider of non-elective services for 57 to 73 per cent of registered patients (see Table 4). We found that 19 to 27 per cent of patients would most likely divert to St Mary's Hospital while 1 to 8 per cent of registered patients had Barnet Hospital as their second closest hospital after The Royal Free Hospital. The remaining 6 to 13 per cent of registered patients had Hammersmith Hospital or University College London Hospital as their next closest hospital.

Table 4: Next closest alternative provider of non-elective services after The Royal Free Hospital

Hospital site	Registered patients, min-max	Per cent, min-max
Whittington	170,080 – 217,635	57 – 73
St Mary's	57,281 – 80,631	19 – 27
Barnet	2,276 – 23,063	1 – 8
Hammersmith	10,913 – 19,371	4 – 7
UCLH	6,048 – 16,436	2 – 6
Total	296,673	100

Source: CCP analysis

146. Whittington Trust told us that it would be likely to expand its maternity services, which suggests that it could exercise an increased constraint on other local providers in the future. Nevertheless, while Whittington Hospital is located very close to The Royal Free Hospital, it has nearly half the capacity and lower specialisation than The Royal Free Hospital. Therefore, for some non-elective services, it might exert a weaker constraint on The Royal Free Hospital than the analysis suggests. If Whittington Hospital were not available we found that 33 to 46 per cent of patients would most likely divert to University College London Hospital.[62] While North Middlesex Hospital and Homerton Hospital appear as closest alternatives for some patients, Barnet Hospital remains an alternative to The Royal Free Hospital for only a very small proportion of patients.

Implications of analysis on costs in provision of non-elective services

147. The results suggest that only a small proportion of registered patients that have Barnet Hospital as their closest non-elective services provider would seek treatment at The Royal Free Hospital if non-elective services were no longer available at Barnet Hospital. The results also show that only a small proportion of registered patients that have The Royal Free Hospital as their closest non-elective services provider would attend Barnet Hospital if non-elective services were no longer available at The Royal Free Hospital.

[62] We note that UCLH has submitted plans to Camden Council to expand its Accident and Emergency Department. See: www.uclh.nhs.uk/News/Pages/ImprovingourservicesforEmergencyDepartmentpatients.aspx

148. This indicates the merger is unlikely materially to reduce the incentives of the merged organisation to improve quality and efficiency in order to retain services on The Royal Free Hospital as well as on Barnet Hospital.

Conclusions on competition for standard non-elective services

149. For the reasons outlined above, taking into account the range of available evidence, the analysis indicates that the remaining constraint from third parties is likely to be sufficient to ensure that the merged organisation continues to face competition in the provision of standard non-elective services.

150. Accordingly, we conclude that there is likely to be sufficient patient choice and competition post merger in respect of standard non-elective services delivered from The Royal Free Foundation Hospital and Barnet Hospital.

VERTICAL EFFECTS OF THE TRANSACTION

151. We next analyse whether the merger is likely to have an impact on the relationship between the merger parties and those providers who transfer patients to them, or to whom they transfer patients to. In particular, we assess the following:

- Whether the merged organisation has the incentive and ability to direct or otherwise influence whether patients are transferred internally rather than to alternative providers. If so, we also consider whether the volume of transfers secured are sufficient to significantly reduce the incentives for the merged organisation to compete for additional transfers. If this is the case, the competitive pressure on the merged organisation is reduced and it would be likely to reduce investment in maintaining or improving the quality of services it offers to patients.

- Whether the merged organisation has the incentive and ability to direct (or otherwise influence) whether patients are transferred internally rather than to alternative providers. If so, we also consider whether the volume of transfers remaining to rival providers is insufficient for them to continue to compete. If this is the case, the competitive pressure on the merged organisation is reduced and it would be able to reduce the quality of services it offers to patients.

- Whether the merged organisation has the incentive and ability to direct or otherwise influence patient transfers so as to undermine the gatekeeper function, where patient choice exists. [63]

152. There are two main patient flows which give rise to transfers to and from the merger parties. The first is the flow of patients between community service providers and providers of hospital services. The second is the flow of patients between providers of hospital services

[63] As we will see below this applies only to the flow of patients between community and acute, where the community provider plays the gatekeeper function into acute care, and where patients have a right to a choice of provider.

and tertiary and/or specialised service providers. We consider changes to the merger parties' incentives in relation to these two patient flows in the sections below.

Effect of the proposed transaction on referrals between providers of community and hospital-based services

153. We considered the effect of the merger on the flow of patients between community service providers and providers of hospital-based services. Patients of community service providers who need treatment in an acute setting are currently able to choose their provider of standard elective care. We assessed whether the merged organisation would have the ability to direct (or otherwise influence) patients receiving community services into standard elective treatment provided from hospital sites of the merged organisation. We note that the merger parties already have this ability as Barnet and Chase Farm Trust already provides a range of community services and Royal Free Foundation Trust provides some community services while both offer a full range of hospital-based services.

154. Any additional impact would have to stem either from:

- patients receiving community services from Barnet and Chase Farm Trust and needing referral to standard elective treatment not offered by Barnet and Chase Farm Trust but offered by Royal Free Foundation Trust; and,

- patients receiving community services from Royal Free Foundation Trust and needing referral to standard elective treatment not offered by Royal Free Foundation Trust but offered by Barnet and Chase Farm Trust.

155. The number of patients in this situation, if any, is likely to be very small because Barnet and Chase Farm Trust and Royal Free Foundation Trust provide a full range of standard elective care. We therefore consider that any additional impact resulting from the merger is also likely to be very small. Therefore the merger is unlikely to result in a loss of choice and competition or undermine the referral gatekeeper function (which is fulfilled in these cases by the community service provider).

156. We also considered the potential impact of the merger on patient choice and competition in terms of referrals from providers of hospital-based services to community service providers. We note that each of the merger parties already has the ability and incentive to refer patients to any community services that the merger parties choose to start providing under the AQP model. We consider that it is unlikely that the merger will change this existing incentive. Therefore, we consider that the merger will have no additional impact and is unlikely to give rise to a reduction in choice and competition in relation to referrals from providers of hospital-based services to community service providers.

157. Therefore, we conclude that the merger is unlikely to give rise to a reduction in choice and competition in relation to referrals between providers of hospital-based services and community services.

Effect of the proposed transaction on transfers between providers of standard and specialist hospital services

158. We assessed whether the merger would have an effect on the flow of patients between standard hospital services and tertiary and/or specialised services. Patients are not generally entitled to choose their provider at this stage of the patient pathway and so we focus on the impact on competition between providers for transfers from consultants.

159. Royal Free Foundation Trust has told us that it provides more specialist versions of services traditionally provided by a district general hospital. Royal Free Foundation Trust quoted rheumatology as an example where both merger parties offer the basic specialty but Royal Free Foundation Trust is also a referral centre for rare and more complex conditions such as scleroderma. Royal Free Foundation Trust also provided another example, explaining that both merger parties provide cardiology services but that only Royal Free Foundation Trust undertakes angioplasties. Therefore, we considered the impact of the merger upon transfers between Barnet and Chase Farm Trust and Royal Free Foundation Trust.

160. Barnet and Chase Farm Trust told us that the only tertiary services it provides are level 2 neonatal services, which include a high dependency and intensive care unit for neonates at Barnet Hospital. Chase Farm Hospital provides a level 1 neonatal service. Barnet and Chase Farm Trust does not provide level 3 neonatal. Royal Free Foundation Trust provides neonatal level 1 services but does not provide level 2 or 3 neonatal services. Therefore, we considered the impact of the merger upon transfers between Royal Free Foundation Trust and Barnet and Chase Farm Trust for level 2 neonatal services.

Transfers from Barnet and Chase Farm Trust to Royal Free Foundation Trust

161. We considered whether the merger would remove the need to compete for tertiary and/or specialised referrals and therefore reduce the incentive to invest in the quality of these services. Prior to the merger, Royal Free Foundation Trust needs to compete to attract transfers from Barnet and Chase Farm Trust. Barnet and Chase Farm Trust chooses whether to send the transfers to Royal Free Foundation Trust or to other providers. The need to compete for tertiary referrals would be eliminated post merger if the merged organisation were in a position to redefine referral pathways to ensure that all Barnet and Chase Farm Trust patients needing transfer for a tertiary and/or specialised referral were automatically transferred to Royal Free Foundation Trust. If this were the case, other specialist providers would not have an incentive to compete for the transfers from Barnet and Chase Farm Trust if these transfers would be very unlikely to be made to other providers, however much they invest in their services.[64]

[64] There could be a further reduce competition if the loss of transfers from Barnet and Chase Farm Trust to other competitors leads other competitors no longer to be in a position to compete with Royal Free Foundation Trust. However, this would only be the case if rival providers of tertiary and/or specialised care could not treat a sufficient number of patients through their own internal transfers and transfers from other providers and would therefore cease to provide the service in question. This is unlikely to be the case for rival providers of tertiary and/or specialist services in the London area.

162. Royal Free Foundation Trust told us that it usually expects to receive transfers from Barnet and Chase Farm Trust for the following specialities: vascular surgery, hepato-pancreatic-biliary surgery, nephrology, specialist surgery, and specialist medicine.

163. In order to understand better the tertiary and/or specialist referral relationship between Barnet and Chase Farm Trust and Royal Free Foundation Trust, we analysed data from the Dr Foster data analysis tool. For those HRGs for which Barnet and Chase Farm Trust already send patients to Royal Free Foundation Trust, the data allows us to check the proportion of additional activity that would be internalised by Royal Free Foundation Trust if Barnet and Chase Farm Trust were to guarantee its existing transfers and redirect all the transfers to Royal Free Foundation Trust away from other providers. In particular we considered the patients currently transferred to UCLH, Barts Trust and North Middlesex Trust. [65]

164. This data alone does not allow us to draw conclusions on whether the merger will result in a reduced incentive to invest in maintaining or improving the quality of care in order to attract and treat a sufficient number of patients. We found that for a number of the HRGs identified, even if Barnet and Chase Farm Trust were to transfer patients within the merged organisation rather than to other providers as is currently the case the additional proportion of activity so internalised (i.e. over which Royal Free Foundation Trust would not have to compete to attract the transfer) would be very small (less than five per cent), and therefore unlikely to affect the merged organisation's incentive to invest in quality of care.

165. In addition, we know that for some of the HRGs identified (e.g. cardiac HRG EA36 Catheter) a large proportion of the activity of Royal Free Foundation Trust is of an elective (as opposed to non-elective) nature and accessible through GP referrals, for example for diagnostic purposes. Even if all of Barnet and Chase Farm Trust's transfers for the procedures identified were to be internalised post merger, no adverse effect would be likely to result on the quality of care provided. In order to reach this conclusion, we have assumed that Royal Free cannot provide different levels of quality of service to elective and non-elective patients for a same HRG. We have also assumed that competition in elective care accessible directly through GP referrals is sufficiently strong to guarantee that Royal Free Foundation Trust still has the incentive to maintain or improve the quality of care in order to attract patients.

166. For other HRGs identified (e.g. EA49 Percutaneous interventions with 3 or more stents or rotablation or IVUS or use of pressure wire) we understand that there are likely to be trauma protocols that are set independently of the merger parties to ensure access on a geographic basis. For this type of HRG, the merger will not have an effect on transfer patterns and therefore on the behaviour of the merger parties.

167. UCLH told us that it is not concerned that the merger will have an effect on tertiary referral patterns. However, UCLH did tell us that if there was an impact on tertiary referrals it would be concerned. The redirection of referrals made by Barnet and Chase Farm Trust would only affect the merged organisation's incentive to invest in quality of care if the transfers it so

[65] These are the three providers of hospital services to which Barnet and Chase Farm Trust transfer most patients overall, with the exception of the Royal National Orthopaedics Hospital for the transfer of orthopaedics patients.

gained were a large enough proportion of the activity it undertakes for a particular procedure. Only if a large enough proportion of its activity for a particular procedure were guaranteed, would it no longer have to invest in the quality of care to attract additional transfers.

168. In order to understand this concern better, we identified the procedures for which patients were transferred from Barnet and Chase Farm Trust to UCLH between April 2012 and March 2013, using the Dr Foster data analysis tool. We found that for a number of these procedures, Barnet and Chase Farm Trust does not currently send any patients to Royal Free Foundation Trust. A number of these procedures are likely to be subject to protocols that are set independently of the merger parties and regardless of the merger going ahead. For this type of procedure, we consider that the merger will not have an effect on transfer patterns and therefore on the behaviour of the merger parties. Other procedures identified are likely to be carried out only by UCLH and not by the Royal Free Foundation Trust, such that transfers could not be diverted to the Royal Free Foundation Trust. For this type of procedure also, we consider that the merger will not have an effect on transfer patterns and therefore on the behaviour of the merger parties. For the remaining procedures, given UCLH's reputation as a provider of tertiary care, some patients and consultants are likely to continue to choose to be transferred to UCLH, following the merger of Barnet and Chase Farm Trust and Royal Free Foundation Trust. Only a small number of transfers have the potential to be internalised. These would represent a small proportion of the total activity treated by the Royal Free Foundation Trust and are therefore unlikely to affect the merged organisation's incentive to invest in quality of care.

169. We conclude that the merger is unlikely to lead to patient being transferred within the merged organisation when possible rather than to other providers. It is therefore unlikely that the merger would lead to the weakening of incentives for Royal Free Foundation Trust to maintain or improve the quality of care of the tertiary or specialised services it provides.

Referrals from Royal Free Foundation Trust to Barnet and Chase Farm Trust

170. We considered whether the merger would remove the need to compete for tertiary referrals into neonatal level 2 services currently provided by Barnet and Chase Farm Trust and not provided by Royal Free Foundation Trust. For this to arise, it would be a requirement that post merger the merged organisation would be in a position to define referral pathways for neonates needing level 2 care. In particular the merged organisation would need to be in a position to ensure that all neonates at The Royal Free Hospital requiring a transfer to neonatal level 2 services would be automatically transferred to Barnet Hospital. Only then would the merged organisation not need to compete to attract these transfers since patients would be transferred within the merged organisation.

171. The merger parties told us that neonatal care is organised as part of the London North Central Network for neonatal services. The network includes one level 3 provider (UCLH), two level 2 providers (Barnet Hospital and Whittington Trust) and two level 1 providers (Royal Free Foundation Trust and Chase Farm Hospital). All level 3 neonates are sent to UCLH. The merger parties have told us that, because of the low availability of cots in neonatal care, UCLH does not typically accept neonates for level 1 or 2 care, in order to keep cots available for level 3

neonatal care. This applies similarly to providers of level 2 neonatal care. The merger parties have told us that they do not expect the current configuration to change.

172. We explored whether, post merger, Royal Free Foundation Trust could redirect neonates needing level 2 care from Whittington Trust to Barnet and Chase Farm Trust. The merger parties told us that neonates needing level 2 care will always be sent to the geographically closest provider, unless that provider has no free cots to accept the patient. In such cases, the neonate would be sent to the second closest provider geographically, and so on until a space is found for the patient. The merger parties explained that this is in line with the clinical guidance around which the neonatal network is set up. They explained further that they would be unable to take unilateral action to change these flows of patients.

173. On this basis, we consider that the neonatal network protocols are set independently of the merger parties and the merger is unlikely to result in a change of these protocols. We therefore conclude that the merger will not have an effect on neonatal transfer patterns and therefore on the behaviour of the merger parties.

Conclusion on vertical effects of the merger

174. Analysis of the evidence we received suggested it is unlikely that the merger would adversely affect competition between providers to attract transfers between community and hospital services and between secondary and tertiary and/or specialised care and will therefore not lead to a reduction in incentive to invest in quality of service.

COMPETITION FOR OUTPATIENT SERVICES

175. We analysed whether the merger would be likely to reduce choice and competition in outpatient services in north London and the surrounding area. There are two types of outpatient services: those which form part of a pathway for a specific admitted patient episode (i.e. first and follow-up appointments); and those standalone outpatient services which do not form part of a specific admitted patient pathway. This second category reflects the growing demand from commissioners for medical care that can be provided on an outpatient basis in hospital and community settings (with no requirement to admit the patient for treatment).

176. The merger parties each provide a range of outpatient services.[66] These services can be provided from a range of premises including GP practices, health centres and community hospitals. Where outpatient services are provided as part of an admitted care pathway (for example pre-operative assessment or follow-up appointments) the effect on competition for outpatient services was assessed in the context of our analysis of the effects of the merger on standard elective services. In this section, we consider outpatient services which do not form part of a specific admitted patient pathway.

[66] Royal Free Foundation Trust provides outpatient services from The Royal Free Hospital, Edgware Community Hospital, Finchley Memorial Hospital, Mount Vernon Hospital, North Middlesex Hospital, St Albans City Hospital and Watford Hospital. Barnet and Chase Farm Trust provides outpatient services from Barnet Hospital, Chase Farm Hospital, Edgware Community Hospital, Finchley Memorial Hospital, Cheshunt Community Hospital and Potters Bar Community Hospital.

177. In general, we consider that the provision of standalone outpatient services is likely to be more competitive than standard elective services. This is because the provision of outpatient services has lower barriers to entry than the provision of hospital-based services and so a wider range of providers are likely to be able to start providing outpatient services. Therefore, unless there are particular circumstances in a case that give rise to barriers to entry in the provision of standalone outpatient services, we consider that the threat of entry by new providers is likely to constrain the merged organisation. This will enable patients and commissioners to switch to an alternative provider if the quality of the merged organisation's standalone outpatient services deteriorates.

178. We have not been able to identify any particular circumstances in this case that might give rise to barriers to entry in the provision of standalone outpatient services in the geographic area in which the merger parties are active. We note that as part of their service development plans the merger parties have each set up outpatient clinics in the surrounding area. Accordingly, our view is that the merger is unlikely to give rise to material costs to patients and taxpayers due to a reduction in choice and competition for standalone outpatient services in north London and the surrounding area.

COMPETITION FOR COMMUNITY SERVICES

179. We assessed whether the merger would be likely to reduce patient choice and competition in community services in north London and the surrounding area. In order to assess the effect of the merger on community services, we first assess the extent of competition between Royal Free Foundation Trust and Barnet and Chase Farm Trust in the absence of the merger. Next we assess the likely pool of bidders for relevant community services contracts following the merger and the extent to which they would be able to offer commissioners a credible alternative to the merging parties.

The extent of competition between the merger parties in the provision of community services

180. As discussed in paragraph 19, which details how we assess the effect of a merger on patient choice and competition, this section discusses the likely extent of competition in provision of community services between the merger parties absent the merger.[67]

Degree of competition between the merger parties prior to the merger

181. Royal Free Foundation Trust told us that it holds contracts to provide two community services: Camden community child health based at the Kentish Town Health Centre[68] and Barnet community paediatric ophthalmology based at the Children's Centre in East Finchley.[69] Royal Free Foundation Trust told us that most of the community services it provides are specialist

[67] In our discussion of the counterfactual our assessment is that it is appropriate to compare the competitive situation following the merger with the situation that both merging parties independently continue to provide the services they currently provide in order to analyse the effects of the merger.
[68] Royal Free Foundation Trust told us that the value of this contract is approximately £✂ million.
[69] Royal Free Foundation Trust told us that the value of this contract is approximately £✂.

services delivered in a community setting to commissioners' specifications. This is reflected in Royal Free Foundation Trust's recent bidding activity, which has been focused on this type of services in the north London area, in particular in Camden and Brent. Royal Free Foundation Trust's activity has included three successful applications for AQP accreditation: community dermatology services in north London, MRI diagnostic services in Brent and termination of pregnancy services in north London and the City.

182. Barnet and Chase Farm Trust currently provides a number of community services which fall under their main acute contract. These include community dermatology services in Enfield (started in July 2012), community pain management services in Enfield (started in April 2013), community paediatrics services in Enfield and Barnet (pilots currently running in both boroughs), community midwifery services in north London, community respiratory services in Enfield and community cardiology services in Enfield (both currently in mobilisation stage). Barnet and Chase Farm Trust have provided the following other community services in Enfield and Barnet since 2001 under the main acute contract:

- community paediatrics (child health development service);
- community paediatric audiology; and
- paediatric home care.

183. Barnet and Chase Trust's recent community bidding activity has focused on the north London area, in particular in Enfield and Barnet. Barnet and Chase Farm Trust's activity has included a successful application for AQP accreditation for community audiology services in Enfield and Barnet.

184. Royal Free Foundation Trust and Barnet and Chase Farm Trust do not appear to have directly competed against each other to provide services in a community setting. However, Royal Free Foundation Trust and Barnet and Chase Farm Trust jointly provide: (i) community dermatology services in Barnet (the SLA has been in place since September 2010); and (ii) infusion services at Finchley Memorial Hospital since June 2013.[70]

185. The current degree of competition between the parties for community services therefore appears to be limited. The next section explores how this could develop in the future, absent the merger.

How the degree of competition between the merger parties could develop in future, absent the merger

186. The intensity of competition between all providers for contracts with commissioners can be expected to increase in the coming years. This is because commissioners will need to seek better value for money for services in a more tightly constrained financial environment. This

[70] The award of this contract to the two parties followed a tender process by NCL, where all bidders except Royal Free Foundation Trust and Barnet and Chase Farm Trust dropped out of the bidding process. NCL told us that neither of the two parties' bids was assessed as meeting the specification it set. However, NCL was of the view that, as the market had been thoroughly tested, it should ask both bidders to submit a joint bid to deliver the service.

can be expected to lead to more robust negotiations with providers and a more active assessment by commissioners of switching opportunities.

187. Further, NHS providers will have stronger incentives to compete with other service providers for business in response to the greater pressure for financial sustainability. These stronger incentives will at least in parts derive from the financial independence and accountability of moving to NHS foundation trust status, the greater possibility of financial failure and the threat to providers' existing revenues that stems from commissioners looking for better value for money.

188. For these reasons our view is that both the number of opportunities to bid to provide relevant community services under exclusive or AQP contracts is likely to increase, and moreover that both Royal Free Foundation Trust and Barnet and Chase Farm Trust would likely be credible competitors to provide these services in the north London area.

Degree of competition from third parties

189. We consider the extent to which third parties in the north London area have previously, and would in future, provide a competitive constraint on the merging parties when bidding to provide community services under exclusive contracts, or under an AQP designation. We set out below our analysis based on publicly available information, information received from the merger parties and information received from commissioners.

190. The north central London commissioners told us that the main community providers in their area are currently Central London Community Healthcare NHS Trust, Central and North West London NHS Foundation Trust, Whittington Trust, and Barnet, Enfield and Haringey Mental Health NHS Trust. The commissioners told us that the large, area-wide contracts held by these organisations have not been formally tendered in the last three years and that therefore they do not know which other providers would be potentially interested in providing such services in the future.

191. With respect to bidding activity for single community service contracts and AQP accreditation, our analysis of the tender information indicates that there is a number of other NHS and independent providers, such as Whittington Trust, Care UK or The Practice PLC, that have, and would likely continue to be willing to, bid for particular community health services in competition with the merging parties.

192. After the merger, it is therefore likely that a number of credible providers will continue to bid to provide community services in the north London area. It is also likely that local primary care provider groups and other independent sector providers that specialise in specific community services will increasingly monitor and bid for services that are tendered, or opened to AQP, in the north London area.

Impact of analysis on costs in provision of community services

193. Royal Free Foundation Trust and Barnet and Chase Farm Trust both provide, and are active bidders for, community contracts in the north London area. Our assessment is that absent the merger both would continue to compete to provide community services in the area.

194. However our analysis indicates that there is likely to remain a range of credible alternative providers that are willing and able to provide strong competitive bids for community service contracts in the north London area. Accordingly, our view is that the merger is unlikely to give rise to material costs to patients and taxpayers due to a reduction in choice and competition for community services in north London and the surrounding area.

COORDINATED EFFECTS

195. Coordinated effects may arise where, following a merger, it is more likely that providers recognise the mutual benefit in not competing with each other and decide to limit the effort placed in competing.[71] We consider that the merger is not likely to result in the creation or strengthening of coordinated effects.[72]

ADVICE AND RECOMMENDATIONS

196. We assessed the effect of the merger on standard elective, non-elective, community, outpatient and specialist/tertiary services. We found that although the merger is likely to remove a strong competitive constraint, after the merger the merged organisation is likely to continue to face a range of competitors for these services, which together are likely to pose a strong competitive constraint. Accordingly, we conclude that the merger is unlikely to give rise to material costs to patients and taxpayers as a result of a loss of patient choice or competition.

197. Overall, we concluded that the merger of Royal London Trust and Barnet and Chase Farm Trust is unlikely to give rise to material costs to patients and taxpayers as a result of a loss of patient choice or competition. Therefore we concluded that there would remain sufficient choice and competition after the merger and it was consistent with Principle 10 of the Principles and Rule.

[71] See CCP *Merger Guidelines*, paragraphs 6.68 to 6.73.

[72] There are a large number of other providers (including both local NHS trusts and independent sector providers of NHS services) that are relatively asymmetric in terms of size, location and service offer, which makes coordination less likely. This approach is consistent with the Office of Fair Trading and Competition Commission approach. See paragraph 5.5.18 of the joint merger assessment guidelines available at: www.competition-commission.org.uk/our_role/ms_and_fm/cc2_review.htm.

Appendix 1

Appendix 1: Travel times between hospital sites in north London

1. This appendix sets out typical travel times from The Royal Free Hospital and Barnet and Chase Farm Hospital to various hospital sites in the north London area.[73] We present travel times for both public and private transport modes.[74] These estimates represent a typical journey times and actual journey times will vary depending on the time of travel and extent of any disruptions on the networks.

[73] We focus on estimating travel times for hospital sites which are most relevant to our analysis, although we recognise that some patients may be willing to travel further to access care at more distant or more centrally located hospitals.
[74] The public transport travel times were generated using Transport for London's Journey Planner and allow for travel by bus, train or underground. The private transport travel times were generated using Google Maps and are intended to capture journeys by private car and taxi.

Appendix 1

Table 1: Travel times from The Royal Free Hospital (NW3 2QG)

Trust name	*Hospital site name*	*Postcode*	*A&E (yes/no)*	*Drive time (rank in bracket, with 1 being the closest)*		*Public transport time (rank in bracket, with 1 being the closest)*	
Whittington Hospitals NHS Trust	The Whittington Hospital	N19 5NF	Yes	9	(1)	19	(1)
University College London Hospitals NHS FT	University College Hospital	NW1 2BU	Yes	16	(2)	26	(2)
Imperial College Healthcare NHS Trust	St Mary's Hospital	W2 1NY	Yes	19	(3)	40	(4)
North West London Hospitals NHS Trust	Central Middlesex Hospital	NW10 7NS	Partial A&E – current A&E services provided from 8.00 am to 7.00 pm, but treats minor injuries only overnight	21	(4)	37	(3)
Imperial College Healthcare NHS Trust	Hammersmith Hospital	W12 0HS	Yes	21	(4)	44	(5)
Imperial College Healthcare NHS Trust	Charing Cross Hospital	W6 8RF	Yes	26	(6)	50	(7)
North Middlesex University Hospital NHS Trust	North Middlesex Hospital	N18 1QX	Yes	26	(6)	58	(8)
Barnet and Chase Farm Hospital NHS Trust	Barnet Hospital	EN5 3DJ	Yes	26	(6)	67	(10)
North West London Hospitals NHS Trust	Northwick Park Hospital	HA1 3UJ	Yes	29	(9)	47	(6)
West Hertfordshire NHS Trust	Watford General Hospital	WD18 0HB	Yes	31	(10)	69	(11)
Barnet and Chase Farm Hospital NHS Trust	Chase Farm Hospital	EN2 8JL	Planned to close in November 2013	36	(11)	60	(9)
East and North Hertfordshire NHS Trust	Queen Elizabeth II Hospital	AL7 4HQ	Partial A&E – current A&E service provided 8.00am to 8.00pm daily, but treats minor injuries only overnight	38	(12)	77	(13)
East and North Hertfordshire NHS Trust	Lister Hospital	SG1 4AB	Yes	43	(13)	75	(12)

Appendix 1

Table 2: Travel times from Barnet Hospital (EN5 3DJ)

Trust name	*Hospital site name*	*Postcode*	*A&E (yes/no)*	*Drive time (rank in bracket, with 1 being the closest)*		*Public transport time (rank in bracket, with 1 being the closest)*	
Barnet and Chase Farm Hospital NHS Trust	Chase Farm Hospital	EN2 8JL	To be closed in November 2013	18	(1)	50	(2)
North Middlesex University Hospital NHS Trust	North Middlesex Hospital	N18 1QX	Yes	23	(2)	56	(5)
Whittington Hospitals NHS Trust	The Whittington Hospital	N19 5NF	Yes	24	(3)	49	(1)
East and North Hertfordshire NHS Trust	Queen Elizabeth II Hospital	AL7 4HQ	Partial A&E – current A&E service provided from 8.00am to 8.00pm daily, but treats minor injuries only overnight	24	(3)	51	(3)
West Hertfordshire NHS Trust	Watford General Hospital	WD18 0HB	Yes	24	(3)	92	(10)
North West London Hospitals NHS Trust	Central Middlesex Hospital	NW10 7NS	Partial A&E – current A&E services provided from 8.00 am to 7.00 pm, but treats minor injuries only overnight	24	(3)	100	(12)
North West London Hospitals NHS Trust	Northwick Park Hospital	HA1 3UJ	Yes	25	(7)	77	(8)
Royal Free London NHS FT	The Royal Free Hospital	NW3 2QG	Yes	26	(8)	65	(6)
East and North Hertfordshire NHS Trust	Lister Hospital	SG1 4AB	Yes	29	(9)	78	(8)
Imperial College Healthcare NHS Trust	Hammersmith Hospital	W12 0HS	Yes	31	(10)	89	(9)
University College London Hospitals NHS FT	University College Hospital	NW1 2BU	Yes	34	(11)	55	(4)
Imperial College Healthcare NHS Trust	St Mary's Hospital	W2 1NY	Yes	34	(11)	76	(7)
Imperial College Healthcare NHS Trust	Charing Cross Hospital	W6 8RF	Yes	39	(12)	93	(11)

Appendix 1

Table 3: Travel times from Chase Farm Hospital (EN2 8JL)

Trust name	*Hospital site name*	*Postcode*	*A&E (yes/no)*	*Drive time (rank in bracket, with 1 being the closest)*		*Public transport time (rank in bracket, with 1 being the closest)*	
Barnet and Chase Farm Hospital NHS Trust	Barnet Hospital	EN5 3DJ	To be closed in November 2013	17	(1)	50	(3)
North Middlesex University Hospital NHS Trust	North Middlesex Hospital	N18 1QX	Yes	18	(2)	45	(1)
East and North Hertfordshire NHS Trust	Queen Elizabeth II Hospital	AL7 4HQ	Partial A&E – current A&E service provided from 8.00am to 8.00pm daily, but treats minor injuries only overnight	27	(3)	64	(7)
West Hertfordshire NHS Trust	Watford General Hospital	WD18 0HB	Yes	30	(4)	98	(12)
Whittington Hospitals NHS Trust	The Whittington Hospital	N19 5NF	Yes	31	(5)	54	(4)
East and North Hertfordshire NHS Trust	Lister Hospital	SG1 4AB	Yes	32	(6)	54	(4)
Royal Free London NHS FT	The Royal Free Hospital	NW3 2QG	Yes	33	(7)	60	(6)
North West London Hospitals NHS Trust	Central Middlesex Hospital	NW10 7NS	Partial A&E – current A&E services provided from 8.00 am to 7.00 pm, but treats minor injuries only overnight	34	(8)	90	(10)
North West London Hospitals NHS Trust	Northwick Park Hospital	HA1 3UJ	Yes	35	(9)	96	(11)
Imperial College Healthcare NHS Trust	Hammersmith Hospital	W12 0HS	Yes	40	(10)	85	(9)
University College London Hospitals NHS FT	University College Hospital	NW1 2BU	Yes	44	(11)	49	(2)
Imperial College Healthcare NHS Trust	St Mary's Hospital	W2 1NY	Yes	44	(11)	65	(8)
Imperial College Healthcare NHS Trust	Charing Cross Hospital	W6 8RF	Yes	49	(12)	88	(9)

Appendix 2

Appendix 2: Market definition

1. In this appendix we consider the appropriate market definition(s) to adopt in order to analyse the competitive effects of the merger. The outcome from a market definition exercise is an identification of those other services that constrain the ability of the merged organisation to increase its prices or reduce the quality of its services following a merger. This can then provide a framework for analysing the competitive effects of a merger through identifying providers of competing services and, for example, examining the market shares of different providers of those services.

2. Whether other services constrain the ability of a merged organisation to increase prices or reduce quality (and should thus be considered as belonging to the same market as services provided by the merging organisations) depends on whether they represent an effective alternative to which patients and/or commissioners could switch. The methodology that we use to define a market is the hypothetical monopolist test (see below).

3. There are two dimensions to a market: a product dimension which may, for example, correspond to a service (for example, hip replacement surgery) or a group of services (for example, acute inpatient services), and a geographic dimension (which may correspond to a specific area).

THE HYPOTHETICAL MONOPOLIST TEST

4. In line with best practice, and consistent with our guidelines, we use the hypothetical monopolist test wherever feasible as the basis for identifying and defining the markets affected by a merger. [75]

5. The test begins by considering the narrowest set of products or services supplied by the merger parties. The following question is then asked: if there were only one supplier (a hypothetical monopolist) of the service in question, could the hypothetical monopolist raise prices or reduce service quality profitably, by a small but significant non-transitory amount?[76] If this would not be profitable, because customers would switch to other services (demand-side substitution), or new providers would start to supply the service (supply-side substitution), then the closest substitute products or services are added to the group and the process is repeated. The product market is defined at the point at which a hypothetical monopolist is able to increase prices (or reduce quality) profitably for those services.

[75] This approach is consistent with the Office of Fair Trading and Competition Commission approach. See section 5.2 of the joint merger assessment guidelines available at www.competition-commission.org.uk/our_role/ms_and_fm/cc2_review.htm.

[76] We assume that it is costly to increase or maintain quality and so a hypothetical monopolist might be able to increase net revenue if it can cut costs without losing too many patients. The loss of patients (and therefore of profitability) due to cutting costs will depend on both the availability of alternatives (in product and geographic space) to patients and/or commissioners, and their propensity to switch in response to a fall in quality. The threat of patients switching in response to a change in quality is consistent with the conclusions reached by Propper, Gaynor, and Moreno-Serra in 'Death by Market Power: Reform, Competition and Patient Outcomes in the National Health Service' July 2010.

6. Similarly, in relation to the geographic market, the hypothetical monopolist test begins by considering the geographic area where the merging organisations both supply products or services. The question is then asked: if there were only one supplier in the area in question, could the hypothetical monopolist maximise profit by raising prices or reducing service quality by a small but significant amount? If this would not maximise profits, because customers would switch to services provided in other areas, then the area is widened accordingly. The relevant geographic market is defined as the set of services in the smallest area that could, hypothetically be monopolised profitably. The scope of geographic markets often depends on willingness to travel and they are usually defined based on providers' locations. By 'profitably' we mean surplus generating, and the key issue is whether the loss of sales as a result of customers switching would be sufficient to offset the increased profits that will be made from retained sales.

7. We note that there is not always an obvious starting point for the test. The competitive constraints between providers of different sizes, providing different services in different locations are likely to differ. Further, any two providers may not necessarily each impose an equal competitive constraint on the other. As such, the starting point for the test can affect the outcome and so we begin the test at different starting points to check for asymmetric constraints. Wherever the test starts it must begin by using the smallest possible candidate market and only expand to a larger market each time a smaller market fails to satisfy the test.

Health care specific considerations

8. On the demand side, health care is different to some other sectors as a result of the role played by both patients and commissioners, both of whom can be viewed as purchasers of health care services. We need to consider the responses of both when thinking about alternative service providers for the purposes of identifying a market affected by a merger.

9. The ability of patients or commissioners to access alternative service providers will be affected by whether, for example, patient choice or competitive tendering is used to select the provider that supplies services to patients. Our assessment of the product market definition will deal with these two areas of competitive interaction.

PRODUCT MARKET

10. In order to define the relevant product market we need to consider substitution possibilities on both the demand side (i.e. substitution by patients/commissioner) and the supply side (i.e. substitution by providers) of the market. In addition, because the consumers (patients with advice from clinicians) and the purchaser of health care services (commissioners) are split into two groups, we will also consider these two groups' behaviour separately when addressing demand side substitution.

11. We begin by considering which services are affected by the merger and therefore what would be an appropriate starting point for market definition. We then look at demand side substitution, that is, whether patients or commissioners would choose to switch provider if

the quality of the service declines.[77] We then consider the supply side, that is, whether other providers would choose to switch to providing the service if quality of services declines.

Demand side substitution in the product market

12. An analysis of the demand side should consider whether consumers (patients with advice from clinicians) or purchasers (commissioners) would choose to switch product or service if the quality of the product or service provided by the hypothetical monopolist declined.

13. From the patient's and hence the commissioner's perspective there may be a degree of substitutability between different procedures which are used to treat certain conditions. For example, large kidney stones can be treated using lithotripsy (which uses ultrasound to break a stone into smaller pieces to be passed in urine) or percutaneous nephrolithotomy (which involves making an incision in the kidney to extract the stone). Where equally effective treatments for a specific condition exist, patients, with the help of their clinician, will be able to choose between those options if the quality of either treatment were to deteriorate. As a result a hypothetical monopolist of one treatment would be unable to reduce investment in its service without losing revenue (as patients switch into the other treatment). We would therefore expand the product market to include both treatments.

14. However, generally, there will be a recommended treatment for a given diagnosis, and therefore patients will not have the option to switch between equally effective treatments for the same diagnosis. For example, a patient is unable to opt to have a replacement knee if they are unsatisfied with the quality of the replacement hip surgery offered by the hypothetical monopolist provider.

15. Similarly on the purchaser side, the commissioner, in fulfilling its duties to commission the health services that the local population needs, will not choose to commission more knee surgery as a result of a hypothetical monopolist provider of hip surgery providing a poor service.[78]

16. Therefore overall there is little scope for demand side substitution for different services. In other words, from the patients' as well as from the commissioners' perspective, each service provided by a hospital constitutes a separate relevant product market on the demand side.

Supply side substitution in the product market

17. The analysis of the supply side considers whether an alternative supplier (a hospital) would have the ability and incentive to switch easily and in a timely fashion into the provision of a service or procedure in the event of a small but significant reduction in the quality of provision of the service in question by a hypothetical monopolist supplier.

[77] We refer to patients choosing a provider though we recognise that when a patient is offered a choice of provider their decision is taken in consultation with their GP.

[78] If the quality of the hip service provided by the hypothetical monopolist were to decline significantly the commissioner may choose to stop commissioning the service altogether (and may use these funds to commission other services). For a commissioner to refuse to fund a procedure is possible, however it is unlikely to result from a small reduction in quality, as postulated in the hypothetical monopolist test.

18. Based on evidence from clinicians, it is our view that supply-side substitution possibilities are likely to exist within each specialty since, for example, consultants are trained and registered within a particular specialty. However, these possibilities tend to be asymmetric ones. For example, specialist/tertiary providers of a given specialty have the highly trained staff and necessary technology/equipment to also provide standard services, even if doing so would be comfortably within their capability. In contrast, the opposite does not necessarily hold. Providers only supplying standard services are unlikely to have the necessary staff and technology/equipment to be capable of quickly providing more specialist/tertiary services.

19. Similarly we note that providers of non-elective services have access to emergency department backup and intensive care units. They will therefore have the capability to provide non-emergency treatment of the same standard specialties that they provide under emergency conditions, even if doing so does not require the use of their emergency backup. However, as above, the opposite does not hold. Providers without emergency departments are unlikely to be able to quickly provide emergency services.

20. Therefore, we asymmetrically expand the market to a specialty level. For example, a market:

- for standard ophthalmology in which existing specialist/tertiary and standard ophthalmology providers compete;[79] or
- for standard orthopaedics in which standard trauma orthopaedic providers, standard elective orthopaedic providers, and specialist/tertiary orthopaedic providers compete.

21. However, supply side substitution possibilities are less likely to occur across specialties since a provider of one specialty is unlikely to be in a position to provide another specialty. For example, a provider whose only service is standard elective orthopaedics would not be in a position to provide standard elective gastroenterology using its existing staff, facilities and equipment.[80] It might be able to acquire the new staff, facilities and equipment that it requires to provide the service relatively quickly at additional cost. However, if these costs or liabilities are sunk then while the provider may still enter the relevant market relatively easily, this would not constitute supply side substitution (and would instead be an entry event). Similarly in order to establish that supply side substitution was likely to occur in a particular case we would need to consider whether the provider in question had the available spare capacity (e.g. beds, operating theatre slots) and the incentive (e.g. the ability to earn a higher margin than was possible from its existing services) to substitute into providing the product. There may also be some minimum sufficient volume required to gain accreditation as a clinically safe provider of certain services.

22. The role of supply side substitution is therefore likely to vary on a case by case basis and we would not rule out the possibility that each specialty constitutes a separate relevant product market.

[79] As distinct from a market for tertiary ophthalmology in which only tertiary ophthalmology providers compete.
[80] See submission to NHS Wiltshire Conduct complaint: http://monitor.gov.uk/regulating-health-care-providers-commissioners/cooperation-and-competition/casework.

Clustering

23. As a result of the product market definition consideration above, we treat each specialty as a separate relevant product market. However, for the purpose of assessing the merger, specialties which face similar constraints and which are provided by the same set of competitors are analysed together in a cluster.[81]

RELEVANT PRODUCT CLUSTERS FOR THE ASSESSMENT OF THE MERGER

24. For the purposes of our analysis we considered the following service clusters:

- Standard elective services cluster. Services in this cluster are provided by a wide range of providers in England, including NHS trusts, NHS foundation trusts and independent sector providers holding an NHS Standard Acute Contract, that are able to admit patients into hospital. The set of potential competitors includes providers of standard and specialised or tertiary elective and non-elective health care services.

- Non-elective services cluster (i.e. A&E and maternity services). Services in this cluster are mainly provided by NHS trusts and NHS foundation trusts with emergency back-up facilities. The set of potential competitors includes providers of standard and specialised or tertiary non-elective health care services.

- Outpatient services cluster. The services in this cluster only include outpatient services which are not linked to a standard elective inpatient episode.[82] The set of potential competitors includes providers of standard and specialised or tertiary elective and non-elective health care services.

- Community health services cluster. Services in this cluster are provided around England by providers with backgrounds in different areas of health and social care. The set of potential competitors includes providers of community, primary, outpatient, elective, specialised or tertiary and non-elective health care services.

For specialist/tertiary health care services we do not adopt a clustering approach and would analyse each specialist/tertiary service separately. Potential competitors include actual and potential providers of each specialist/tertiary service.

25. Note that the service clusters identified above are stratified across all specialties in order to allow us to consider the asymmetries discussed above.[83] However, in some cases a provider

[81] In some cases a provider of a range of specialities may not face similar constraints and the same set of competitors across all of its specialties. Some of its specialties may face greater or lesser constraints, for example as a result of the additional independent sector capacity funded by commissioners in certain specialities. In that case we may examine the speciality outside the clusters that we define below.

[82] These only include outpatient services which are not linked to a standard elective inpatient episode e.g. dermatology. Outpatient services which are provided in conjunction with an admitted patient episode (i.e. pre-operative assessments and follow up appointments) are considered as part of the elective and non-elective service clusters and each individual specialist service.

[83] That is, routine/specialist, elective/non-elective for each different specialty.

might not face similar constraints and the same set of competitors across all of its specialties. For example some of its specialties may face greater or lesser constraints than others, perhaps as a result of the additional independent sector capacity funded by commissioners in certain specialities. In that case we may decide to examine the speciality outside the clusters that we define here.

Standard elective services cluster

26. Standard elective health care services can be planned and typically require a referral from a GP (a consultant, or an allied health care professional). They include both surgical procedures, such as arthroscopies, and diagnostic procedures such as endoscopies.

27. Standard elective services are provided by a wide range of providers in England that are able to admit patients into hospital. Providers of one elective care specialty often also provide other elective care specialties. For example, in this case the parties overlap in the provision of most elective care, which is also provided by neighbouring hospitals. For the provision of each of these elective services, the parties and other hospitals face the same set of competitors. We will therefore analyse these services all together. However, as above, where we expect that one service might be facing a different set of constraints from other services in this cluster we will analyse the service.

28. We also considered whether to include in this cluster the providers of non-elective services. We understand that a range of staff, equipment and facilities are needed to provide standard elective services, these include: consultants; nurses; radiologists; anaesthetists; operating theatres; equipment; wards; and an intensive care unit or a high dependency unit. We also understand that for any given specialty, there is a large overlap in the skills of the staff (and sometimes even the members of staff) that provide non-elective services, and the skills of the staff that provide elective services.[84]

29. Therefore, we expect that these providers will have the capability to provide elective treatment of the same specialties that they provide under emergency conditions, even if doing so does not require the use of their emergency backup. Our research suggests that NHS providers rarely have fixed capacity constraints and so are able to open additional beds or lengthen their hours (or waiting lists) where they are permitted and incentivised to do so. This means they are likely to have the capacity to substitute into provision of an elective service. Prices are currently set at average cost and so there is also a good chance that a given provider will have an incentive to substitute into provision of an elective service. Hence, we consider that providers of non-elective care are likely to operate some constraint on providers of elective care. We therefore include providers of non-elective care in the markets that we refer to as the 'elective services cluster'. However, we note that in this case there are no organisations providing only non-elective services and so we have not considered this in greater detail.

[84] For example consultants are trained and registered within a particular specialty.

Appendix 2

Non-elective services cluster

30. Non-elective health care services are provided in unplanned or urgent circumstances. They include accident and emergency services, as well as supporting services such as emergency medicine and surgery, consultant-led maternity and critical care services.[85] These services are mainly provided by NHS trusts and NHS foundation trusts with emergency back-up services. Private provision of these services is unusual for NHS patients.

31. Providers of one non-elective specialty often also provide other non-elective care specialties. For example, in this case the merger parties overlap in the provision of most non-elective care, which is also provided by neighbouring providers. Therefore, for the provision of each of these non-elective services, the merger parties and other providers face the same set of competitors. We will therefore analyse these services all together. However, where we expect that one service might be facing a different set of constraints from other services in this cluster, we will analyse the service separately.

32. We also considered whether to include in this cluster providers who only provide elective services (but not non-elective services). However, we understand that to provide non-elective services a provider would need to have an accident and emergency department and an intensive care unit. This might involve either building these facilities or having the chance to operate an existing facility. We understand the cost of building an accident and emergency department to be in the order of several million pounds.[86] In addition, an accident and emergency department would require a change in consultant types and other support services (such as putting aside theatre capacity for emergency lists and having diagnostic facilities) to provide non-elective services.[87] We are aware of one instance where a commissioner has granted a third party the right to operate an existing accident and emergency facility although it is unclear whether this model of provision is likely to be implemented across other NHS hospitals in the immediate future.[88] Therefore, while this might hypothetically be possible, it does not appear likely and so we did not include providers of only elective services in this cluster and we do not include providers of elective care in the markets that we refer to as the 'non-elective cluster'.

Community service cluster

33. Community services are provided around England by NHS, independent and third sector providers with backgrounds in different areas of health and social care. In the past, these services were typically provided by Primary Care Trust community services provider arms but these organisations have now become, or are part of, standalone organisations as part of the policy to separate provision from commissioning. Their individual contracts are gradually being tendered.

[85] Non-elective services do not include specialist non-elective services such as hyper-acute stroke or major trauma services.
[86] See CCP report on the merger between Nuffield Orthopaedic Centre NHS Trust and Oxford Radcliffe Hospitals NHS Trust.
[87] For example, it would require consultants specialising in accident and emergency medicine.
[88] Circle Healthcare has been awarded a 10-year contract to manage the provision of all acute hospital services at Hinchingbrooke Hospital.

34. Providers of one community service often also provide other community services. Therefore, for the provision of each of these community services, providers will face broadly the same set of competitors. We will therefore analyse these services all together. However, as above, where we expect one service might be facing a different set of constraints from other services in this cluster, we will analyse the service separately.

35. We also considered whether to include in this cluster the providers of primary, elective, standard non-elective and specialist/tertiary services that do not currently provide community services. We understand that community services generally have low fixed costs and can therefore potentially be provided by providers from a range of backgrounds.[89]

36. We expect that these providers will have the capability to provide community services. Hence, we consider that providers of primary, non-elective, elective, and specialist/tertiary care operate some constraint on providers of community services. Therefore, we include providers of primary, non-elective, elective, and specialist/tertiary care in the markets that we refer to as the 'community services cluster'.

Outpatient service cluster

37. When considering providers in the outpatient services market we draw a distinction between two types of outpatient service. The first type is those outpatient services provided as part of an admitted care pathway (for example pre-operative assessment or follow up appointments). Since the provider of the admitted component of the care pathway is likely to also need to provide the associated outpatient service, we consider these form part of the relevant elective/non-elective service that it is provided in conjunction with.

38. The second type is those outpatient services which do not form part of the specific admitted patient pathway. This second category reflects the growing trend towards medical care being provided in an outpatient setting, with no requirement to admit the patient for treatment. We refer to this latter category of outpatient service in the outpatient service provision cluster.

39. Providers of one outpatient specialty often also provide other outpatient specialties.[90] Therefore, for the provision of each of these outpatient services, the merger parties and other providers face the same set of competitors. Therefore, we analyse these services together. However, as above, where we expect that one service might be facing a different set of constraints from other services in this cluster, we will analyse the service separately.

40. We also considered whether to include in this cluster the providers of elective and non-elective services. We understand that outpatient services often require a consultation room and an hour or two of a consultant's time. We expect that elective and non-elective service providers will have the capability to provide outpatient services of the same specialties that they provide for inpatient and day-case patients. Hence, we consider that providers of elective and non-elective care operate some constraint on providers of outpatient services.

[89] Although commissioners may not consider those without experience to be strong competitors for contracts, this is a matter for a competitive effects analysis rather than market definition.
[90] By which we mean the provider that gets paid the tariff for that outpatient appointment.

Appendix 2

41. We include providers of elective and non-elective care in the markets that we refer to as the 'outpatient cluster'. However we note that given the set of providers included within this outpatient cluster of markets we can be confident that outpatient service markets are likely to be more competitive than the inpatient elective services.[91] Therefore, if we do not identify a loss of choice and competition in the elective cluster then we can be confident that there is no loss of competition in this outpatient cluster.

Individual specialist/tertiary service provision clusters

42. Specialist/tertiary services are provided to patients that require more specialist treatment than traditionally provided in a local acute hospital (i.e. a district general hospital). They typically include both elective and non-elective services (i.e. non-elective patients will be transferred from an accident and emergency department). Providers may focus on one specialty or provide specialist services across a number of specialities. For example, Moorfields Eye Hospital NHS Foundation Trust (Moorfields Foundation Trust) only provides specialist services in one specialty (ophthalmology) while UCLH and Imperial Trust provide a range of specialist/tertiary services across a number of specialities.

43. In contrast with the provision of standard elective and standard non-elective care, we observe that providers of one specialist/tertiary specialty often do not provide the same range of specialist/tertiary specialties due to specialist training, experience and equipment required to deliver specialist services. As a result the set of specialist/tertiary services provided by each hospital can vary significantly from one provider to the next. We consider that for the provision of each of the specialist/tertiary services, the parties and other hospitals are likely to face different sets of competitors. Therefore, for specialist/tertiary health care services we do not adopt a clustering approach and would analyse each specialist/tertiary service separately.

44. Given that there are no overlaps in the provision of specialised or tertiary services between Royal Free Foundation Trust and Barnet and Chase Farm Trust, we did not consider the potential horizontal effects of the merger on these services in the analysis.

GEOGRAPHIC MARKET

45. In this case product market definition provides a useful framework for analysing the competitive effects of the merger by identifying the different groups of services which the merger might affect (we therefore structure our competitive effects analysis around these groups of services). However we consider in full the substitutability between the services provided from different hospitals in the area within our competitive effects analysis. We have therefore not found it necessary to precisely define the relevant geographic market as it is not material to our findings.[92] However, for the purposes of explaining our competitive

[91] While the market is more local there are little or no barriers to any form of acute provider entering into the provision of outpatient services.

[92] This is because we have within our competitive effects analysis considered the strength of the competitive constraints posed by all relevant potential rivals. Given the nature of the identified product markets and the importance of convenience to patients we are able in this case to identify the potentially relevant rivals based on the proximity of the facilities of those rivals. We have also considered the possibility of a competitive threat from more distant rivals moving into the area, and we treat these as potential new entrants to the market.

assessment we refer to a market we have termed 'the north London area' (see Figure 1). The north London area includes providers located in north London, as well those located in immediate surrounding areas, including providers located to the north (e.g. East and North Hertfordshire Trust), to the south (e.g. UCLH), to the west (e.g. Imperial Trust) and to the east (e.g. Barts Trust).

46. We note that the location of a provider is important to patients (and GPs) and so those hospitals in north London and the surrounding area that provide the same services in different locations will not be perfect substitutes for one another, and providers that are near one another will tend to be more important competitors than those that are not.[93] We assess the relative strength of competitive constraints between the providers in the main report.

[93] For the purposes of our analysis we do not distinguish between whether the choice of provider is made by a GP or a patient.

Appendix 3

Appendix 3: GP referral analysis

1. This appendix explains the GP referral analysis that forms one element of the competitive effects assessment in the main report. In the competitive effects assessment we seek to understand what would happen if the relative quality of service provided by Royal Free Foundation Trust or Barnet and Chase Farm Trust were to decline. This raises two questions. First, if the relative quality of service declined, how many referrals would switch to a different provider? Second, if they were to switch, which providers would those referrals be likely to switch to?

2. Our GP referral analysis is not able to address the first question. That is, it does not tell us how likely it is that a patient or GP will switch to another provider in response to a change in relative quality: in order to do that we would need to have estimates of the cross elasticity of demand with respect to quality. This in turn would require an estimated demand model with a well specified demand function for GPs for the hospitals and services in question.

3. However, we know from recent research on data from English hospitals that, in general, if the relative quality of a hospital provider's service decreases, this is associated with a decrease in demand (since some patients and GPs switch away from that provider).[94] For example, one finding suggests that a ten per cent increase in mortality rates is associated with an 11 per cent decrease in demand.[95] This is in line with the rest of the literature looking at how patients choose a hospital provider.[96,97] As noted above, in each case we also consider the specific evidence on the likelihood of patients switching to particular providers.

4. Given that the academic evidence suggests that patients are likely to switch in response to changes in relative quality, we use the GP referral analysis to investigate the second question, i.e. if patients were to switch, which provider would they be likely to switch to?[98]

5. Our analysis uses observed GP referral patterns to understand which provider referrals would switch to if they did switch. It seeks to identify those providers that appear likely to pose a threat to the largest proportion of the trust's volume of elective activity. In this respect our

[94] Gaynor M, Propper C and Siedler S (2011): 'Free to choose: reform and demand response in the British National Health Service', mimeo, London School of Economics; Beckert W, Christensen M and Collyer K (2012): 'Choice of NHS-funded hospital services in England', The Economic Journal, Vol. 122, Issue 560, pp. 400-417.

[95] Beckert W, Christensen M and Collyer K (2012): 'Choice of NHS-funded hospital services in England', The Economic Journal, Vol. 122, Issue 560, pp. 400-417.

[96] For example: Gaynor, Martin, Carol Propper, and Stephan Seiler. Free to choose? Reform and demand response in the English National Health Service. No. w18574. National Bureau of Economic Research, 2012; Santos R, Gravelle H, Propper C. Does Quality Affect Patients' Choice of Doctor? Evidence from the UK. Centre for Health Economics, University of York; CHE Research Paper 88, 2013; Sivey, Peter. The effect of waiting time and distance on hospital choice for English cataract patients Health Economics 21.4: 444-456, 2012; Burge, Peter, et al. Understanding patients' choices at the point of referral., 2006.

[97] We also note that patients in England have only recently been allowed to exercise the right to choose between providers. Patients' sensitivity to changes in relative quality of provider might therefore be expected to increase over time as patients become more familiar and more aware of their ability to choose, and more informed on changes in relative quality that occur. This would suggest that the degree of substitutability that we observe is likely to increase in future (if the option to switch remains at that time).

[98] We note that in the case of the Bournemouth/Poole merger, the Competition Commission has carried out survey analysis to understand the potential switching behaviour of patients. The survey analysis may also enable them to estimate the scale of potential switching behaviour.

analysis reflects the internal analysis that we observe providers conducting in order to understand their competitive position. We often find that a large proportion of the referrals that a provider receives are likely to switch, if they switch anywhere, to a particular rival. In that case it is likely that, firstly this will include the majority of any marginal referrals,[99] and secondly, that the provider will perceive that rival to be the biggest competitive threat to its volume of elective activity.

6. We undertake the analysis using two different methodologies. For each speciality we present the results of our analysis using the ordinal approach first. We then discuss the consistency of these results with those obtained using the proportional methodology. We do so in order to test the robustness of the results under the ordinal approach.

METHODOLOGY 1: ORDINAL APPROACH

7. This methodology uses GP practice-level data.[100] The data reflects the choices made by different pairs of GPs and patients within each GP practice at an aggregated level. We assume that each choice that is made reflects the preference of the pair that made the decision. That is, the patient and GP made the choice which best reflected their preferences at that time. For patients with similar treatment needs, we also assume that the preferences of the different pairs of GPs and patients within a practice that make the decisions are likely to be relatively homogeneous, given their common location and their need for the same set of treatments. Therefore, we expect that if the relative quality of the first choice provider were to decline, the most likely alternative provider for a GP/patient, if they were to switch, would be likely to be the provider (other than their selected provider) that had the highest number of preferences from other GP/patient pairs within the same practice.[101]

8. In our ordinal analysis we rank providers by the number of preferences that they receive from GP/patient pairs within each GP practice in an area for a given procedure. Then, using these rankings, we make the assumption that the most commonly preferred provider (i.e. the provider a GP practice referred to the most often for the set of services reviewed during the period of analysis) is the preferred provider for that GP practice (for the specified services), and that the next most commonly preferred provider (i.e. the provider a GP practice referred to the second most often for the set of services reviewed during the period of analysis) was, for that GP practice, the second preference.

[99] As noted in paragraph 1, marginal referrals are those where the destination is sensitive to changes in relative quality. In particular they are those patient referrals that would be likely to switch to another provider in the event of a reduction in the relative quality of provision at a hospital. We note that in order for competition to improve quality it only requires a proportion of referrals to be marginal referrals i.e. it does not have to be the case that all referrals have to switch. Furthermore, it does not matter whether it is patients or GPs that choose the destination of the referral, only that they make a choice based on quality.

[100] The data that we analyse is often at HRG chapter level or individual procedure level as appropriate. This data is provided by Dr Foster Intelligence, an information firm that provide the same data to providers and commissioners. The data is cleaned and updated each month which enables us to conduct analysis that takes account of the impact of even the most recent changes in the market.

[101] Similarly, following a change in the quality of service at a GP practice's second most common provider, if the GP practice were to switch some patients away from that provider, they would instead refer to those patients to the first ranked provider. Note that the set of treatments that we analyse differs in each version of the analysis. Although preferences will differ between individual GPs and between individual patients, evidence suggests that the following factors are important factors when choosing a hospital: (i) the distance to each available hospital; (ii) the patient's age; and, (iii) the degree of health and income deprivation in the local area. These characteristics will tend to be very similar for GPs working in the same practice (see Beckert W, Christensen M and Collyer K (2012): 'Choice of NHS-funded hospital services in England', The Economic Journal, Vol. 122, Issue 560, pp. 400-417).

9. Next, we assumed that following a change in the quality of service at its preferred provider (and assuming that all else remains equal), if GP/patient pairs within a GP practice were to switch away from that provider, they would instead refer those patients to the practice's second ranked provider.[102,103]

For example we might observe that at a particular GP practice: 60 patients chose Provider X, 30 chose Provider Y and 10 chose Provider Z.

If the 60 patients that had chosen Provider X were to switch away in response to a reduction in relative quality, under this assumption they would choose Provider Y.

10. We considered it reasonable to assume that GPs and patients, if they switch, would be likely to switch referrals to providers to which GPs already refer for two reasons. First, because patients and GPs cannot perfectly observe the quality of the service that they select but instead need to use the experience they and others have had in order to inform the choice of provider. Therefore, GPs are more likely to have experience on which to base their decision if they have previously referred patients to a given provider (e.g. they may know the consultants and have observed their clinical outcomes). Secondly, we expect that the choices made by patients and GPs at a particular GP practice in the past will reveal something about the providers that they would choose in the future.[104]

11. The results for all GP practices that refer patients to the provider for the service in question are collected and collated, resulting in a list of providers and the numbers of patients for whom each provider was the most likely alternative: an effective ranking of alternative providers.

METHODOLOGY 2: PROPORTIONAL APPROACH

12. As with the ordinal approach this methodology uses GP practice-level data. This data reflects the choices made by different pairs of GPs and patients within each GP practice at an aggregated level. We assume that each choice that is made reveals the first preference of the GP and patient pair that made the decision.

13. We assume that following a change in the quality of service at their preferred provider (X) (and assuming that all else remains equal), if a GP and patient pair were to decide against referring to their preferred provider (X), they would instead refer to the other providers that

[102] As noted in paragraph 8 above, we have not observed (nor asked patients) which provider these patients would choose were they to switch away from Provider X. Instead we have used the choices of patients and GPs within the same practice, which we expect will be relatively homogenous, to inform a sensible view of the likely destination of these patients, if they were to switch away from using Provider X.

[103] It is also possible to extend this analysis by adopting an assumption that the GP practice's referrals to its second preferred provider would switch to both the first and the third preferences of the GP practice. We have used this variation of the analysis in for example the analysis of the merger of Barts Trust with Newham and Whipps Cross hospitals.

[104] Consistent with this assumption, evidence suggests that the higher is the GP's referral frequency to a particular hospital, the more likely the patient is to go to that hospital (see Beckert, W., Christensen, M. And Collyer, K. (2012): 'Choice of NHS-funded hospital services in England', The Economic Journal, Vol. 122, Issue 560, pp. 400-417).

patients at the same GP practice have previously used.[105] In particular, we assume that the proportion that would be referred to each provider would reflect the proportion of patients at the GP practice that had previously been referred to that provider. This is explained in more detail in the text box below.

> For example we might observe that at a particular GP practice: 60 patients chose Provider X, 30 chose Provider Y and 10 chose Provide Z.
>
> In this case, of the patients that didn't choose Provider X, 75% chose Provider Y (i.e. 30/(30+10)) and 25% chose Provider Z (i.e. 10/(30+10).
>
> If we assume that the 60 patients that had chosen Provider X as their first choice were to switch away in response to a reduction in relative quality we assume that 75% of them would then choose Provider Y and 25% of them would choose Provider Z. 75% of 60 referrals is 45 referrals.
>
> Therefore, if the 60 referrals from this GP practice were to switch to another provider, then under this approach, we expect 45 would switch to provider Y and the other 15 would switch to Provider Z.

14. As in the ordinal methodology we considered it reasonable to assume that GPs would switch to providers to which they already refer (see paragraph 10 above).

Barnet and Chase Farm Trust

15. The following paragraphs describe the likely alternative providers for those patients who were referred to Barnet and Chase Farm Trust for treatment in selected high volume elective services[106] that are provided by both Royal Free Foundation Trust and Barnet and Chase Farm Trust. These were identified using the ordinal methodology. The alternatives are ranked according to the estimated share of Barnet and Chase Farm Trust's referrals that, if they were to switch anywhere, would be likely to switch to the rival in question. As explained above, this analysis does not tell us which referrals are more likely to be switched than others.[107] However, we expect that the higher the percentage reported in the table, the more likely it is that any actual switch will be between the provider and the rival in question. We therefore report firstly which provider appears to be the most important rival (on the basis that they are the most likely alternative for the largest share of referrals), and, secondly, the share of referrals for which that provider is the best alternative, which indicates the confidence with which we can identify that rival as the closest competitor.[108]

[105] As noted in paragraph 8 above, we have not observed (nor asked patients) which provider these patients would choose were they to switch away from Provider X. Instead we have used the choices of patients and GPs within the same practice, which we expect will be relatively homogenous (though less so than under the ordinal approach), to inform a sensible view of the likely destination of these patients, if they were to switch away from using Provider X.

[106] We have selected the highest volume procedures within a given HRG chapter. The total volume of referrals within an HRG chapter varies. Therefore, the size of the sample for the individual procedures selected for analysis differs depending on the HRG chapter considered. The HRG chapters with smaller volumes of referrals have been excluded from the analysis.

[107] We do not consider for example that a GP practice with a 90/10 referral split are more likely to switch than a GP practice with a 50/50 split.

[108] Again we note that a rival may be the closest competitor without there being any providers that are particular strong competitors (the closest of a weak group of rivals).

Appendix 3

16. Table 1 below shows a summary of the GP referral analysis by HRG chapter for Barnet and Chase Farm Trust. The table indicates the relative importance of the providers as well as the share of referrals for which that provider is the best alternative. The table also shows the share of the selected procedures out of the total volume of referrals to Barnet and Chase Farm Trust during the period under analysis which is from June 2010 to May 2012.

17. The analysis suggests that Royal Free Foundation Trust is the most important alternative provider to Barnet and Chase Farm Trust for the majority of the activity considered. Royal Free Foundation Trust is not among the three most important alternatives only for three out of 18 service lines analysed. After Royal Free Foundation Trust, the other most important alternative providers are UCLH and North Middlesex Trust. They appear most often as either the second or third most important alternatives to Barnet and Chase Farm Trust.

18. The share of Barnet and Chase Farm Trust's referrals for which Royal Free Foundation Trust is the best alternative varies depending on the services considered. For example, for both breast procedures and disorder services and for digestive system and disorders services, Royal Free Foundation Trust is an alternative to Barnet and Chase Farm Trust. However, for breast procedures and disorders services, Royal Free Foundation Trust is by far the most important alternative for referrals to Barnet and Chase Farm Trust with other providers individually the best alternative to only a small share of these referrals. On the other hand, for the referrals to Barnet and Chase Farm Trust for digestive system and disorders services, UCLH and Royal Free Foundation Trust each are the best alternative provider for a similar share of current referrals to Barnet and Chase Farm Trust.

19. Royal Free Foundation Trust is not always the most important alternative to Barnet and Chase Farm Trust. The results suggest that UCLH is the most important alternative provider for nervous system procedures and disorders services and haematological disorders services, while North Middlesex Trust is the most important alternative for eyes and periorbita procedures and disorders services and female reproductive system procedures.

20. Royal National Orthopaedic Trust, a specialist orthopaedics provider, is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for pain management and orthopaedic non-trauma procedures (the results of proportional methodology suggest that Royal National Orthopaedic Trust might also be the most important alternative for musculoskeletal disorders services). East and North Hertfordshire Trust is the most important alternative provider for thoracic procedures and disorders services. However, this result appears to be driven by the HRG called DZ17 - respiratory neoplasms service. If this HRG is excluded, East and North Hertfordshire Trust becomes the fourth most important alternative in the thoracic procedures and disorders HRG chapter. In the latter case, Royal Free Foundation Trust, UCLH and Royal Brompton Trust are the most important alternative providers to Barnet and Chase Farm Trust.

21. The results from the proportional analysis are broadly consistent with those from the ordinal methodology, with the ranking of the important alternative providers being broadly consistent across both methodologies. The number and the share of referrals for which a provider is the

best alternative might be different under the proportional methodology. The reasons for these differences are:

- Compared to the ordinal methodology, the proportional methodology redistributes the referrals in the "Barnet and Chase Farm Trust not in the top two preferred providers" category between alternative providers. Under the ordinal methodology, the most likely alternatives are not considered for those GP practices that do not have Barnet and Chase Farm Trust among the top two preferred providers.

- Compared to the ordinal methodology, the proportional methodology does not include duplicates which arise in the ordinal methodology when two providers receive the same number of referrals from a GP practice. Under the ordinal methodology that number of referrals is allocated twice, while under the proportional methodology, referrals are allocated proportionally to each provider.

Appendix 3

Table 1: Summary of the GP referral analysis by HRG chapter – alternative providers to the referrals received by Barnet and Chase Farm Trust[109]

Share of referrals[110]	HRG Chapter	*Royal Free Foundation Trust*				*UCLH*				*North Middlesex Trust*				*East and North Hertfordshire Trust*				*Whittington Trust*				*Royal National Orthopaedic Trust*				*Royal Brompton Foundation Trust*			
		Ordinal Method		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**	
%		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
0.44	AA	2	25	2	20	1	74	1	55											8	2					3	13	3	12
4.3	AB	5	6	4	10	2	27	2	18	3	13	3	12	6	6	7	4	4	7	6	8	1	32	1	21				
1.4	BZ[111]	3	4	3	12					1	34	1	42			6	1												
0.71	DZ	3	20	3	14	2	25	2	17	5	11	5	9	1	28	1	22									4	14	4	12
0.63	DZ (2)[112]	1	22	1	19	1	22	3	15	5	12	5	9	4	12	4	9									1	22	2	16
2.01	EA	1	57	1	37	4	8	3	12	2	19	2	12	3	9	6	5									7	3	5	7
10.08	FZ	1	32	1	26	2	26	2	20	3	19	3	13	4	11	5	6	9	1	6	6								
0.59	GA	1	48	1	33	3	12	3	10	2	21	2	12	7	6	6	4	4	9	5	5								
0.37	GB[113]	1	68	1	53	4	4	3	7	2	9	2	9	6	3	5	4			10	1								
3.14	HB[114]	4	15	2	15	5	8	5	10	3	16	3	12	6	8	9	4	8	5	6	5	1	28	1	18				

[109] Cells were left blank when the provider was the best alternative provider for a share of less than 1 per cent of current Barnet and Chase Farm Trust referrals for a particular service line or the provider ranked lower than the tenth most important provider for the service line, or it did not appear in the ranking altogether.

[110] These are the shares of all the referrals received by Barnet and Chase Farm Trust from the area considered in the analysis during June 2010-May 2012. The total referrals include the HRG chapter "Data invalid for grouping" (around 1.1 per cent of total referrals). All the procedures considered account for around 52 per cent of total 105,880 referrals.

[111] Under the ordinal methodology, the second most important alternative provider for the patients referred to Barnet and Chase Farm Trust was Moorfields Foundation Trust which was the best alternative for 32 per cent of referrals. Under the proportional methodology, the second most important alternative was also Moorfields Foundation Trust, which was the best alternative for 40 per cent of referrals.

[112] There was a difference of only one referral between the first and the second most important alternative provider and between the second and the third most important alternative provider.

[113] Under the ordinal methodology, the third most important alternative provider for the patients referred to Barnet and Chase Farm Trust was King's College Foundation Trust, which was the best alternative for 5 per cent of referrals.

[114] Under the ordinal methodology, the second most important alternative provider for the patients referred to Barnet and Chase Farm Trust was BMI Healthcare, which was the best alternative for 19 per cent of referrals. Under the proportional methodology, BMI Healthcare was the third most important provider jointly with North Middlesex Trust.

Appendix 3

Share of referrals[110]	HRG Chapter	*Royal Free Foundation Trust*				*UCLH*				*North Middlesex Trust*				*East and North Hertfordshire Trust*				*Whittington Trust*				*Royal National Orthopaedic Trust*				*Royal Brompton Foundation Trust*			
		Ordinal Method		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**		**Ordinal Method**		**Proportional method**	
%		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
0.38	HC	1	58	1	38	2	21	3	15					7	2	8	2	9	1			3	18	2	16				
0.78	HD	1	28	2	25	3	19	3	16	6	4	6	3									2	25	1	29	9	1	9	1
1.19	JA	1	79	1	53	3	5	3	8	2	10	2	9	6	3	8	3	5	4	5	5								
6.85	JC	1	87	1	68			4	4	2	5	2	7	3	4	3	4	4	1	5	3								
0.29	KA	1	38	1	32	3	19	3	15	2	36	2	24	7	3	7	2	10	1										
7.06	LB	1	34	1	25	2	29	2	21	3	16	3	13	4	7	4	6	9	2	6	5			10	2				
9.71	MA	2	33	1	25	3	12	3	12	1	35	2	18	4	9	5	6	6	7	4	9								
0.81	QZ[115]	1	47	1	31	2	34	2	29	4	4	3	5	5	4	7	4									8	3		
1.9	SA	5	7	4	9	1	44	1	34	2	12	2	18			5	5	3	10	3	10								

Source: CCP analysis

[115] Under the ordinal methodology, the second most important alternative provider for the patients referred to Barnet and Chase Farm Trust was Barts Trust, which was the best alternative for 8 per cent of referrals.

Appendix 3

AA – Nervous system procedures and disorders

22. Results from the ordinal approach set out at Table 2 below indicates that UCLH is the most important alternative to those patients referred to Barnet and Chase Farm Trust for the selected nervous system procedures and disorders. Other important alternative providers include Royal Free Foundation Trust and Royal Brompton Trust. The results from the proportional analysis are consistent with those from the ordinal methodology.

Table 2 – GP level analysis for nervous system procedures and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[116]	
Provider	**Ordinal**[117] **Method (%)**	**Proportional Method (%)**
UCLH	74	55
Royal Free Foundation Trust	25	20
Royal Brompton Foundation Trust	13	12
Imperial Trust	2	2
Barts Trust	0	2
Great Ormond Street Trust	-	2
Others	1	6
Referring only to Barnet and Chase Farm Trust[118]	0	0
Barnet and Chase Farm Trust not in top two preferred providers[119]	12	-
Duplicates[120]	28	-

Source: CCP analysis

[116] Intracranial Procedures Except Trauma with Other Diagnoses - category 4 (AA09), Muscular, Intracranial Procedures Except Trauma with Other Diagnoses - category 1 or 2 (AA21), Balance, Cranial or Peripheral Nerve disorders; Epilepsy; Head Injury (AA26), Multiple Sclerosis (AA30).

[117] A number 0 identifies that there are some referrals in the category, but due to rounding the share is recorded as 0. The dash "-" identifies that there are no referrals in the category.

[118] This group includes referrals originating from the GP practices that only referred to Barnet and Chase Farm Trust. Under both methodologies, we do not make any inferences about the likely alternative for these referrals.

[119] This group includes referrals originating from the GP practices that do not refer most often or second most often to Barnet and Chase Farm Trust.

[120] Duplicates arise when two providers receive the same number of referrals from a given GP practice. In that case, both providers are assigned the same ranking and they are both considered potential alternatives for the referrals to Barnet and Chase Farm Trust.

AB – Pain management

23. Results set out in Table 3 from the ordinal approach suggest that Royal National Orthopaedic Trust and UCLH are the two most important alternative providers for patients referred to Barnet and Chase Farm Trust for pain management elective services. North Middlesex Trust appears as the third most important alternative. Under the proportional approach to the GP referral analysis, the ranking of the three most important alternative providers to Barnet and Chase Farm Trust is the same. Royal Free Foundation Trust appears as the fourth most important alternative provider to Barnet and Chase Farm Trust under the proportional approach and only the fifth most important alternative provider under the ordinal methodology.

Table 3 – GP level analysis for pain management elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[121]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal National Orthopaedic Trust	32	21
UCLH	27	18
North Middlesex Trust	13	12
Whittington Trust	7	8
Royal Free Foundation Trust	6	10
East and North Hertfordshire Trust	6	4
BMI Healthcare	4	9
Others	8	19
Referring only to Barnet and Chase Farm Trust	0	0
Barnet and Chase Farm Trust not in top two preferred providers	7	-
Duplicates	10	-

Source: CCP analysis

BZ – Eyes and periorbita procedures and disorders

24. Results from the ordinal approach set out at Table 4 below suggest that North Middlesex Trust and Moorfields Foundation Trust are the two most important alternative providers for patients referred to Barnet and Chase Farm Trust for eyes and periorbita procedures and disorders services. Royal Free Foundation Trust is the third most important alternative provider however it is the best alternative for a much smaller proportion of Barnet and Chase Farm Trust's referrals than are North Middlesex Trust and Moorfields Foundation Trust.

25. We note the high proportion of referrals that come from GPs for whom Barnet and Chase Farm Trust is not one of their top two most commonly preferred providers. The results under the proportional analysis are consistent with the ordinal analysis.

[121] Complex Neurosurgical Pain Procedures (AB01), Complex Major Pain Procedures (AB02), Complex Pain Procedures (AB03), Major Pain Procedures (AB04), Intermediate Pain Procedures (AB05), Minor Pain Procedures (AB06).

Appendix 3

Table 4 – GP level analysis for eyes and periorbita procedures and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[122]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
North Middlesex Trust	34	42
Moorfields Foundation Trust	32	40
Royal Free Foundation Trust	4	12
BMI Healthcare	-	1
Barts Trust	-	1
East and North Hertfordshire	-	1
Others	-	3
Referring only to Barnet and Chase Farm Trust	-	-
Barnet and Chase Farm Trust not in top two preferred providers	35	-
Duplicates	5	-

Source: CCP analysis

DZ – Thoracic procedures and disorders

26. Results from the ordinal approach set out at Table 5 below suggest that East and North Hertfordshire Trust and UCLH are the two most important alternative providers for the patients referred to Barnet and Chase Farm Trust for thoracic procedures and disorders services. The table also suggests that Royal Free Foundation Trust is the third most important alternative provider, followed by Royal Brompton Foundation Trust. The results from the proportional methodology are consistent with those from ordinal methodology.

27. We noticed that respiratory neoplasms (DZ17 HRG) is an important service to East and North Hertfordshire Trust and its inclusion drives the results of the analysis. Therefore, we repeated the analysis excluding the respiratory neoplasms service, to determine whether East and North Hertfordshire Trust is also an important alternative for other procedures in the chapter or if it is only an important alternative for this particular procedure.

28. The results from the ordinal approach also suggest that Royal Free Foundation Trust, UCLH and Royal Brompton Foundation Trust are the most important alternatives for the patients referred to Barnet and Chase Farm Trust for thoracic procedures and disorders services. Each of them is the best alternative provider for 22 per cent of Barnet and Chase Farm Trust's referrals, whilst East and North Hertfordshire Trust as well as North Middlesex Trust are each the best alternative for 12 per cent of referrals to Barnet and Chase Farm Trust.

29. The results from the proportional methodology also suggest that UCLH, Royal Free Foundation Trust and Royal Brompton Foundation Trust remain the three most important alternatives,

[122] Phacoemulsification Cataract Extraction and Lens Implant (BZ02), Non-Phacoemulsification Cataract Surgery (BZ03), Oculoplastics category 2 (BZ06), Oculoplastics category 1 (BZ07), Orbits / Lacrimal category 1 (BZ10).

followed by East and North Hertfordshire Trust and North Middlesex Trust. However, the proportional analysis indicated that the three most important alternatives are each the best alternative provider for a slightly different share of referrals to Barnet and Chase Farm Trust.

Table 5 – GP level analysis for thoracic procedures and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[123]		*Selected HRGs (no DZ17)*	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**	**Ordinal Method (%)**	**Proportional Method (%)**
East and North Hertfordshire Trust	28	22	12	9
UCLH	25	17	22	15
Royal Free Foundation Trust	20	14	22	19
Royal Brompton Foundation Trust	14	12	22	16
North Middlesex Trust	11	9	12	9
Imperial Trust	5	5	6	5
North West London Trust	4	4	10	8
Others	14	10	14	11
Referring only to Barnet and Chase Farm Trust	7	7	9	9
Barnet and Chase Farm Trust not in top two preferred providers	2	-	3	-
Duplicates	29	-	32	-

Source: CCP analysis

EA – Cardiac procedures

30. Results from the ordinal approach set out at Table 6 below indicate that Royal Free Foundation Trust is the most important alternative provider for patients referred to Barnet and Chase Farm Trust for cardiac services. The results from the ordinal analysis also suggest that North Middlesex Trust is the best alternative for 19 per cent of current Barnet and Chase Farm Trust's referrals.

31. Results of the ordinal methodology further suggest that East and North Hertfordshire Trust is a more important alternative than the proportional methodology would suggest. In contrast, results from the proportional methodology suggest that UCLH is the best alternative for 12 per cent of referrals and therefore is the second most important provider jointly with North Middlesex Trust.

32. The HRG EA36 - cardiac catheterisation, which is a relatively standard procedure in cardiac services, provided by both Royal Free and Barnet and Chase Farm Trust, accounts for slightly more than 80 per cent of activity within the selected HRGs subsample for both Barnet and Chase Farm Trust and Royal Free Foundation Trust.

[123] Fibre optic Bronchoscopy (DZ07), Lobar, Atypical or Viral Pneumonia (DZ11), Respiratory Neoplasms (DZ17), Granulomatous, Allergic Alveolitis or Autoimmune Lung Disease (DZ29).

Appendix 3

Table 6 – GP level analysis for cardiac procedures elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[124]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	57	37
North Middlesex Trust	19	12
East and North Hertfordshire Trust	9	5
UCLH	8	12
Barts Trust	5	8
Princess Alexandra Trust	4	3
Royal Brompton Foundation Trust	3	7
Others	5	15
Referring only to Barnet and Chase Farm Trust	0	0
Barnet and Chase Farm Trust not in top two preferred providers	4	-
Duplicates	15	-

Source: CCP analysis

FZ – Digestive system and procedures

33. Results from the ordinal approach set out at Table 77 below suggest that Royal Free and UCLH are the most important alternative providers for the patients referred to Barnet and Chase Farm Trust for digestive system procedures and disorders. North Middlesex Trust appears as the best alternative provider for 19 per cent of Barnet and Chase Farm Trust patients.

34. Results from the proportional approach are consistent with those of the ordinal approach with respect to the three most important alternative providers for the patients referred to Barnet and Chase Farm Trust. However, the results from the proportional analysis suggest that North West London Trust is the best alternative provider for 11 per cent of referrals, whilst the results from the ordinal analysis suggest it was the best alternative provider only for 3 per cent of referrals.

[124] Pace 1 - Single Chamber or Implantable Diagnostic Device (EA03), Pace 2 - Dual Chamber (EA05), Catheter (EA36), Pacemaker Procedure without Generator Implant (includes resiting and removal of cardiac pacemaker system) (EA39), Minor Cardiac Procedures (EA44).

Appendix 3

Table 7 – GP level analysis for digestive system and procedures elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[125]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	32	26
UCLH	26	20
North Middlesex Trust	19	13
East and North Hertfordshire Trust	11	6
West Hertfordshire Hospitals	7	5
North West London Trust	3	11
Others	4	19
Referring only to Barnet and Chase Farm Trust	0	0
Barnet and Chase Farm Trust not in top two preferred providers	3	-
Duplicates	6	-

Source: CCP analysis

GA – Hepatobiliary and pancreatic system surgery

35. Results from the ordinal approach set out at Table 8 below indicate that Royal Free is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for hepatobiliary and pancreatic system surgery. They also indicate that North Middlesex Trust is the second most important alternative, followed by UCLH which is the third most important alternative.

36. The results from the proportional methodology are broadly consistent with those from the ordinal methodology.

[125] Endoscopic or Intermediate Procedures for Inflammatory Bowel Disease (FZ28), Diagnostic Colonoscopy 19 years and over (FZ51), Diagnostic Flexible Sigmoidoscopy 19 years and over (FZ54), Diagnostic Endoscopic Procedures on the Upper GI Tract 19 years and over (FZ60), Diagnostic Endoscopic Procedures on the Upper GI Tract with Biopsy 19 years and over (FZ61).

Appendix 3

Table 8 – GP level analysis for hepatobiliary and pancreatic system surgery elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGS[126]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	48	33
North Middlesex Trust	21	12
UCLH	12	10
Whittington Trust	9	5
North West London Trust	6	4
Princess Alexandra Trust	6	5
East and North Hertfordshire Trust	6	4
Others	20	18
Referring only to Barnet and Chase Farm Trust	9	9
Barnet and Chase Farm Trust not in top two preferred providers	2	-
Duplicates	38	-

Source: CCP analysis

GB – Hepatobiliary and pancreatic system endoscopic procedures

37. Results from the ordinal approach set out at Table 9 below suggest that Royal Free is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for hepatobiliary and pancreatic system endoscopic procedures. North Middlesex Trust is the best alternative provider for 9 per cent of referrals, whilst the remaining providers are each the best alternative provider for not more than 5 per cent of current Barnet and Chase Farm Trust's referrals. Further 10 per cent of referrals originate at the GP practices which only refer to Barnet and Chase Farm Trust for hepatobiliary and pancreatic system endoscopic procedures.

38. The results from the proportional methodology are broadly consistent with those from the ordinal methodology.

[126] Hepatobiliary Procedures category 5 (GA05), Hepatobiliary Procedures category 3 (GA07), Cholecystectomy (GA10).

Appendix 3

Table 9 – GP level analysis for hepatobiliary and pancreatic system endoscopic procedures elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[127]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	68	53
North Middlesex Trust	9	9
King's College Foundation Trust	5	4
UCLH	4	7
Princess Alexandra Trust	4	3
East and North Hertfordshire Trust	3	4
Imperial Trust	2	4
Others	3	8
Referring only to Barnet and Chase Farm Trust	10	10
Barnet and Chase Farm Trust not in top two preferred providers	7	-
Duplicates	14	-

Source: CCP analysis

HB – Orthopaedic non-trauma procedures

39. Results from the ordinal approach set out at Table 10 below suggest that Royal National Orthopaedics Trust is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for orthopaedic non-trauma procedures. The other important alternative providers are BMI Healthcare, North Middlesex Trust and Royal Free Foundation Trust, which are each the best alternative provider for between 19 and 15 per cent of the referrals to Barnet and Chase Farm Trust.

40. Under both approaches, the top four most important alternative providers to Barnet and Chase Farm Trust are the same. However, results from the proportional analysis suggest that the relative importance of Royal Free Foundation Trust as the most likely alternative is slightly greater than the results from the ordinal methodology indicate.

[127] Endoscopic/Radiology category 3 (GB02), Endoscopic/Radiology category 1 (GB04), Endoscopic Retrograde Cholangiopancreatography Category 2 (GB06), Endoscopic Retrograde Cholangiopancreatography Category 1 (GB07).

Appendix 3

Table 10 – GP level analysis for orthopaedic non-trauma procedures elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[128]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal National Orthopaedic Trust	28	18
BMI Healthcare	19	12
North Middlesex Trust	16	12
Royal Free Foundation Trust	15	15
UCLH	8	10
East and North Hertfordshire Trust	8	4
Others	17	29
Referring only to Barnet and Chase Farm Trust	7	-
Barnet and Chase Farm Trust not in top two preferred providers	0	0
Duplicates	19	-

Source: CCP analysis

HC – Spinal surgery and disorders

41. Results from the ordinal approach set out in Table 11 below indicate that Royal Free Foundation Trust is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for spinal surgery and disorders services. The other two important alternative providers, which together are the best alternative provider for nearly 40 per cent of spinal surgery and disorders referrals to Barnet and Chase Farm Trust, are UCLH and Royal National Orthopaedic Trust.

42. The results from the proportional methodology are consistent with those from the ordinal methodology.

[128] Major Hip Procedures for non Trauma Category 1 (HB12), Major Knee Procedures for non Trauma Category 2 (HB21), Intermediate Knee Procedures for non Trauma (HB23), Minor Hand Procedures for non Trauma Category 2 (HB55), Major Shoulder and Upper Arm Procedures for non Trauma (HB61).

Appendix 3

Table 11 – GP level analysis for spinal surgery and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[129]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	58	38
UCLH	21	15
Royal National Orthopaedic Trust	18	16
Imperial Trust	7	5
Barts Trust	1	4
Others	11	16
Referring only to Barnet and Chase Farm Trust	5	5
Barnet and Chase Farm Trust not in top two preferred providers	9	-
Duplicates	29	-

Source: CCP analysis

HD – Musculoskeletal disorders

43. Results from the ordinal approach set out in Table 12 below suggest that Royal Free Foundation Trust and the Royal National Orthopaedic Trust are the two most important alternative providers for the patients referred to Barnet and Chase Farm Trust for musculoskeletal disorders services. The third most important alternative provider is UCLH, which is the best alternative for 19 per cent of referrals to Barnet and Chase Farm Trust.

44. Results from the proportional methodology suggest that Royal National Orthopaedic Trust is slightly more important alternative provider than Royal Free Foundation Trust, whilst those from the ordinal methodology suggest that Royal Free Foundation Trust is the most important alternative provider for Barnet and Chase Farm Trust's referrals. The fact that proportions to both providers are very similar in magnitude suggests that both are important alternatives to Barnet and Chase Farm Trust.

[129] Extramural Spine Major 2 (HC01), Extramural Spine Major 1 (HC02), Extramural Spine Intermediate 2 (HC03), Extramural Spine Intermediate 1 (HC04), Degenerative Spinal Conditions (HC27).

Appendix 3

Table 12 – GP level analysis for musculoskeletal disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[130]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	28	25
Royal National Orthopaedic Trust	25	29
UCLH	19	16
Barts Trust	7	6
North West London Trust	4	6
North Middlesex Trust	4	3
Others	9	12
Referring only to Barnet and Chase Farm Trust	5	5
Barnet and Chase Farm Trust not in top two preferred providers	12	-
Duplicates	12	-

Source: CCP analysis

[130] Soft Tissue Disorders (HD21), Inflammatory Spine, Joint or Connective Tissue Disorders (HD23), Non-Inflammatory Bone or Joint Disorders (HD24).

Appendix 3

JA – Breast procedures and disorders

45. Results from the ordinal approach set out at Table 13 below suggest that Royal Free Foundation Trust is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for breast procedures and disorders services. The table also suggests that other providers are much less important alternatives than Royal Free Foundation Trust. The results from the proportional methodology are broadly consistent with those from the ordinal methodology.

Table 13 – GP level analysis for breast procedures and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[131]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	79	53
North Middlesex Trust	10	9
UCLH	5	8
North West London Trust	4	3
Whittington Trust	4	5
East and North Hertfordshire Trust	3	3
The Royal Marsden	2	6
Others	9	12
Referring only to Barnet and Chase Farm Trust	2	2
Barnet and Chase Farm Trust not in top two preferred providers	4	-
Duplicates	21	-

Source: CCP analysis

JC – Skin surgery

46. Results from the ordinal approach set out at Table 14 below suggest that Royal Free Foundation Trust is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for skin surgery. The table also suggests that other providers are much less important alternatives than Royal Free Foundation Trust. The results from the proportional methodology are consistent with those from the ordinal methodology.

[131] Major Breast Procedures Category 3 (JA06), Major Breast Procedures Category 2 (JA07), Intermediate Breast Procedures (JA09), Minor Breast Procedures (JA15), Mastectomy with Breast Reconstruction (JA16).

Appendix 3

Table 14 – GP level analysis for skin surgery elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[132]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	87	68
North Middlesex Trust	5	7
East and North Hertfordshire Trust	4	4
Whittington Trust	1	3
Guy's and St Thomas' Hospital	0	2
UCLH	0	4
Others	1	13
Referring only to Barnet and Chase Farm Trust	0	0
Barnet and Chase Farm Trust not in top two preferred providers	3	-
Duplicates	2	-

Source: CCP analysis

[132] Intermediate Skin Procedures (JC04), Minor Skin Procedures Category 3 (JC05), Skin Therapies Level 3 (JC15), Skin Therapies Level 4 (JC16), Electrical and Other Invasive Therapy 2 (JC18).

KA – Endocrine system disorders

47. Results from the ordinal approach set out at Table 15 below indicate that Royal Free and North Middlesex Trust are the most important alternative providers for the patients referred to Barnet and Chase Farm Trust for endocrine system disorders services. These results also indicate that UCLH, which is the third most important provider for patients referred to Barnet and Chase Farm Trust, is the best alternative for 19 per cent of current Barnet and Chase Farm Trust's referrals.

48. The results from the proportional methodology suggest that Royal Free Foundation Trust is the best alternative provider for 32 per cent of referrals and North Middlesex Trust is the best alternative for 24 per cent of referrals to Barnet and Chase Farm Trust, whilst the results from the ordinal methodology indicated that Royal Free Foundation Trust and North Middlesex Trust are each the best alternative for a very similar share of referrals (38 per cent and 36 per cent, respectively).

Table 15 – GP level analysis for endocrine system disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[133]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	38	32
North Middlesex Trust	36	24
UCLH	19	15
Imperial Trust	5	3
Barts Trust	4	4
Princess Alexandra Trust	3	4
Others	15	11
Referring only to Barnet and Chase Farm Trust	7	7
Barnet and Chase Farm Trust not in top two preferred providers	5	-
Duplicates	32	-

Source: CCP analysis

LB – Urological and male reproductive system procedures and disorders

49. Results from the ordinal approach set out at Table 16 below suggest Royal Free Foundation Trust is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for urological and male reproductive system procedures and disorders services. The second most important alternative provider is UCLH and North Middlesex Trust is the best alternative provider for 16 per cent of patients referred to Barnet and Chase Farm Trust. The results from the proportional methodology are consistent with those from the ordinal methodology.

[133] Parathyroid Procedures (KA03), Anterior Pituitary Disorders (KA05), Non Pituitary Endocrine Neoplasms (KA06), Thyroid Procedures (KA09).

Appendix 3

Table 16 – GP level analysis for urological and male reproductive system procedures and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[134]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	34	25
UCLH	29	21
North Middlesex Trust	16	13
East and North Hertfordshire Trust	7	6
North West London Trust	7	4
North West London Trust	5	5
Others	10	25
Referring only to Barnet and Chase Farm Trust	0	0
Barnet and Chase Farm Trust not in top two preferred providers	4	-
Duplicates	12	-

Source: CCP analysis

MA – Female reproductive system procedures

50. Results from the ordinal approach set out at Table 17 below indicate that North Middlesex Trust and Royal Free Foundation Trust are the two most important alternative providers for the patients referred to Barnet and Chase Farm Trust for female reproductive system procedures. UCLH is the best alternative for 12 per cent of referrals to Barnet and Chase Farm Trust and therefore is the third most important alternative.

51. Results from the proportional analysis also indicate that North Middlesex Trust and Royal Free Foundation Trust are the two most important alternative providers for Barnet and Chase Farm Trust referrals. These results also suggest that Royal Free is the most important alternative, while results the ordinal analysis suggest that North Middlesex Trust is the more likely alternative to Royal Free Foundation Trust for a slightly larger share of Barnet and Chase Farm Trust's referrals than is Royal Free Foundation Trust.

[134] Bladder Major Endoscopic Procedure (LB13), Bladder Intermediate Endoscopic Procedure (LB14), Prostate Transuretheral Resection Procedure (LB25), Penile Conditions and Minor Procedures (LB32), Scrotum, Testis or Vas Deferens Open Procedures (LB34).

Appendix 3

Table 17 – GP level analysis for female reproductive system procedures elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[135]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
North Middlesex Trust	35	18
Royal Free Foundation Trust	33	25
UCLH	12	12
East and North Hertfordshire Trust	9	6
Imperial Trust	7	5
Whittington Trust	7	9
BMI Healthcare	7	5
Others	17	21
Referring only to Barnet and Chase Farm Trust	0	0
Barnet and Chase Farm Trust not in top two preferred providers	2	-
Duplicates	29	-

Source: CCP analysis

QZ – Vascular procedures and disorders

52. Results from the ordinal approach set out in Table 18 below suggest that Royal Free is the most important alternative provider for patients referred to Barnet and Chase Farm Trust for vascular procedures and disorders services. UCLH is the second most important alternative provider and Barts Trust is the best alternative provider for 8 per cent of referrals to Barnet and Chase Farm Trust for vascular procedures and disorders services

53. The ranking of the most important alternative providers remains very similar under the proportional methodology. However, a point to note is that the results from the proportional analysis suggest that Royal Free Foundation Trust and UCLH may be each the best alternative for an almost equal share of referrals to Barnet and Chase Farm Trust. In contrast, results from the ordinal methodology indicate that Royal Free Foundation Trust was the best alternative for 47 per cent of Barnet and Chase Farm Trust's referrals and UCLH was the best alternative for 34 per cent of referrals.

[135] Lower Genital Tract Intermediate Procedures (MA04), Upper Genital Tract Major Procedures without Malignancy (MA07), Resection and Ablation Procedures for Intra-uterine Lesions (MA12), Diagnostic Hysteroscopy (MA21), Lower Genital Tract Minor Procedures - Category 2 (MA23).

Appendix 3

Table 18 – GP level analysis for vascular procedures and disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[136]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Free Foundation Trust	47	31
UCLH	34	29
Barts Trust	8	5
North Middlesex Trust	4	5
East and North Hertfordshire Trust	4	4
Princess Alexandra Trust	3	3
Others	13	20
Referring only to Barnet and Chase Farm Trust	3	3
Barnet and Chase Farm Trust not in top two preferred providers	6	-
Duplicates	22	-

Source: CCP analysis

SA – Haematological disorders

54. Results from the ordinal approach set out at Table 19 below suggest that UCLH is the most important alternative provider for the patients referred to Barnet and Chase Farm Trust for haematological disorders services. These results also indicate that North Middlesex Trust is the best alternative for 12 per cent of referrals and Whittington Trust is the best alternative for 10 per cent of referrals to Barnet and Chase Farm Trust, whilst the results from the proportional analysis indicate that North Middlesex Trust is the best alternative provider for 18 per cent of referrals.

[136] Primary Bilateral Varicose Vein Procedures without CC (QZ09), Primary Unilateral Varicose Vein Procedures without CC (QZ10), Therapeutic Endovascular Procedures (QZ15), Diagnostic Vascular Radiology and other transluminal Procedures (QZ16), Non-Surgical Peripheral Vascular Disease (QZ17).

Appendix 3

Table 19 – GP level analysis for haematological disorders elective referrals: alternatives to Barnet and Chase Farm Trust, June 2010-May 2012

	Selected HRGs[137]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	44	34
North Middlesex Trust	12	18
Whittington Trust	10	10
King's College Foundation Trust	7	3
Royal Free Foundation Trust	7	9
Imperial Trust	6	4
North West London Trust	4	4
Others	13	17
Referring only to Barnet and Chase Farm Trust	-	-
Barnet and Chase Farm Trust not in top two preferred providers	5	-
Duplicates	7	-

Source: CCP analysis.

Royal Free Foundation Trust

55. The next paragraphs describe the likely alternative providers for those patients who were referred to Royal Free Foundation Trust for treatment in the selected high volume elective services[138] that are provided by both Royal Free Foundation Trust and Barnet and Chase Farm Trust based on results obtained from the ordinal methodology. This is the equivalent analysis to the one on Barnet and Chase Farm Trust, which is described in the section above.

56. Table 20 below shows a summary of the GP referral analysis by HRG chapter for Royal Free Foundation Trust. The table indicates the relative importance of the providers as well as the share of referrals for which that provider is the best alternative. The table also shows the share of the selected procedures out of the total volume of referrals to Royal Free Foundation Trust during June 2010-May 2012 period.

57. For a large share of GP practices which made at least one referral to Royal Free Foundation Trust during the period, Royal Free Foundation Trust was not one of their top two most preferred providers. This is most likely due to Royal Free attracting patients from a wide catchment area. Table 20 focuses on the ranking of alternative providers and as such does not include the category of referrals originating from the GP practices that do not have Royal Free Foundation Trust as one of their top two most preferred providers. This information is provided in the tables reporting the results for individual HRGs.

[137] Iron Deficiency Anaemia (SA04), Myeloproliferative Disorder (SA07), Single Plasma Exchange, Leucophoresis or Red Cell Exchange (SA13), Acute Myeloid Leukaemia (SA25), Malignant Lymphoma (including Hodgkin's and non-Hodgkin's) (SA31).
[138] We have selected the highest volume procedures within a given HRG chapter. The total volume of referrals within an HRG chapter varies. Therefore, the size of the sample for each individual procedure differs depending on the HRG chapter considered. The HRG chapters with the smallest volumes of referrals have been excluded from the analysis.

58. The analysis suggests that UCLH is the most important alternative provider to Royal Free for the majority of the service lines considered. UCLH is not among the three most important alternatives only for two out of 18 service lines analysed. Barnet and Chase Farm Trust is another important alternative provider for patients referred to Royal Free Foundation Trust for elective services. For all service lines analysed, Barnet and Chase Farm Trust is in the top three most important alternatives. It is the most important alternative provider for five out of 18 service lines analysed and the second or third most important alternative for all other service lines.

59. Imperial Trust appears most often as either the second or third most important alternative to Royal Free and therefore is the other most important alternative provider after UCLH and Barnet and Chase Farm Trust. Whittington Trust is the second most important provider for breast procedures and disorders services and the third most important provider for another three of the service lines considered. The Royal National Orthopaedic Trust, a specialist orthopaedics provider, is the third most important alternative provider for the patients referred to Royal Free Foundation Trust for four of the service lines considered.

60. The results suggest that Royal Brompton Foundation Trust, a specialist heart and lung provider, is the most important alternative provider for thoracic procedures and disorders services, while another specialist provider Moorfields Foundation Trust is the most important alternative for the eyes and periorbita procedures and disorders services.

61. The share of Royal Free Foundation Trust's referrals for which either UCLH or Barnet and Chase Farm Trust is the best alternative varies depending on the services considered. For example, for skin surgery services, Barnet and Chase Farm Trust is the best alternative for a share of referrals twice the size of UCLH's share, the second most important alternative. On the other hand, for the referrals to Royal Free Foundation Trust for urological and male reproductive system procedures and disorders services, Barnet and Chase Farm Trust is the best alternative provider for a share of current referrals to Royal Free Foundation Trust that is similar to the UCLH's share.

62. The results from the proportional analysis are broadly consistent with those from the ordinal methodology, with the ranking of the important alternative providers being broadly consistent across both methodologies and the same conclusion about the most important alternative providers being drawn. We note, however, that the number and the share of referrals for which a provider is the best alternative is sometimes different under the proportional methodology. The reasons for the differences are:

    - Compared to the ordinal methodology, the proportional methodology redistributes the referrals in the "Royal Free not in the top two preferred providers" category between alternative providers. Under the ordinal methodology, the most likely alternatives are not considered for those GP practices that do not have Royal Free among the top two preferred providers.

    - Compared to the ordinal methodology, the proportional methodology does not include duplicates which arise in the ordinal methodology when two providers receive the same

number of referrals from a GP practice. Under the ordinal methodology that number of referrals is allocated twice, while under the proportional methodology, referrals are allocated proportionally to each provider.

Appendix 3

Table 20: Summary of the GP referral analysis by HRG chapter – alternative providers to the referrals received by Royal Free Foundation Trust[139]

Share of referrals[140]	HRG chapter	*Barnet and Chase Farm Trust*				*UCLH*				*North Middlesex Trust*				*Whittington Trust*				*Imperial Trust*				*Royal Brompton Foundation Trust*				*Royal National Orthopaedic Trust*			
		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method	
%		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
0.94	AA[141]	2	10	2	10	1	34	1	34					7	4					5	5	4	8	3	9				
1.21	AB	2	13	2	21	1	26	1	24			9	2	4	8	3	14	5	5	5	10					3	9	4	13
8.52	BZ[142]	3	1	3	5			4	4			7	2			10	1	2	4	2	6								
0.41	DZ	3	16	3	14	2	18	2	17	10	2					9	3	4	9	4	7	1	24	1	19				
1.53	EA	1	40	1	32	2	25	2	23	6	2	6	4	7	2	9	2	3	9	3	11	4	5	4	8				
8.04	FZ	2	23	2	22	1	39	1	29	6	1	6	3	4	5	3	13	3	6	4	10								
0.77	GA	2	20	2	17	1	23	1	19	4	10	5	8	5	9	3	9	3	11	4	9								
1.37	GB	2	20	2	16	1	24	1	19	4	9	4	7	6	5	6	5	3	13	3	13								
1.87	HB	2	15	2	17	1	27	1	24	8	1	7	4	5	6	4	9	4	6	6	7					3	10	3	10
0.68	HC	2	23	2	17	1	34	1	27					8	2	8	2	6	6	5	5					3	20	3	15
1.79	HD	2	13	3	12	1	41	1	34	8	2	10	2	10	2	7	3	4	8	4	8					3	12	2	15
1.57	JA[143]	1	24	1	21	5	9	5	7	6	6	7	6	2	14	2	12	7	6	6	7								

[139] Cells were left blank when the provider was the best alternative provider for a share of less than 1 per cent of current Royal Free Foundation Trust's referrals for a particular service line or the provider ranked lower than the tenth most important provider for the service line, or it did not appear in the ranking altogether.

[140] These are the shares of all the referrals received by Royal Free Foundation Trust from the area considered in the analysis during June 2010-May 2012. The total referrals include the HRG chapter "Data invalid for grouping" (around 4.25 per cent of total referrals) and the HRG chapter "Mouth, head and ears procedures and disorders" (CZ) (around 12.9 per cent of total referrals). The procedures within HRG chapter CZ were provided mainly from the Royal National Throat, Nose and Ear Hospital, which is now operated by UCLH. All the procedures considered account for around 47 per cent of total 87,270 referrals.

[141] Under the ordinal methodology, the third most important alternative provider for patients referred to Royal Free Foundation Trust was Papworth Hospital, which was the best alternative for 9 per cent of referrals.

[142] Under the ordinal methodology, the most important alternative provider for patients referred to Royal Free Foundation Trust was Moorfields Foundation Trust, which was the best alternative for 83 per cent of referrals. Under the proportional methodology, the most important alternative was also Moorfields Foundation Trust, which was the best alternative for 72 per cent of referrals.

Appendix 3

Share of referrals [140]	HRG chapter	*Barnet and Chase Farm Trust*				*UCLH*				*North Middlesex Trust*				*Whittington Trust*				*Imperial Trust*				*Royal Brompton Foundation Trust*				*Royal National Orthopaedic Trust*			
		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method		Ordinal Method		Proportional method	
%		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
10.08	JC	1	32	1	27	2	15	2	14	8	2	10	2	3	12	3	11	4	8	4	7								
0.71	KA	2	25	2	20	1	34	1	30	6	5	6	4	8	3	8	2	3	23	3	16								
3.69	LB	1	29	1	29	2	28	2	25	7	1	8	3	3	12	3	13	4	6	4	7							10	1
1.56	MA	1	30	1	31	3	14	3	15	5	3	6	4	4	9	4	14	2	22	2	19								
1.25	QZ	2	25	2	17	1	40	1	35	5	6	5	4	8	2	9	2	3	11	3	11	10	1						
0.82	SA	2	10	2	15	1	23	1	30	4	6	4	9	3	7	3	13	7	3	6	6								

Source: CCP analys

[143] Under the ordinal methodology, the most important alternative provider for patients referred to Royal Free Foundation Trust was Barts Trust, which was the best alternative for 10 per cent of referrals. Under the proportional methodology, the most important alternative was also Barts Trust, which was the best alternative for 9 per cent of referrals.

Appendix 3

AA – Nervous system procedures and disorders

63. Results from the ordinal approach set out in Table 21 below suggest that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for nervous system procedures and disorders services. Barnet and Chase Farm Trust is the best alternative provider for 10 per cent of referrals. The remaining providers are each the best alternative provider for fewer than 10 per cent of current Royal Free Foundation Trust's referrals.

64. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 21 – GP level analysis for nervous system procedures and disorders elective referrals: alternatives to Royal Free, June 2010-May 2012

	Selected HRGs[144]	
Provider	**Ordinal**[145] **Method (%)**	**Proportional Method (%)**
UCLH	34	34
Barnet and Chase Farm Trust	10	10
Papworth Hospital	9	5
Royal Brompton Foundation Trust	8	9
King's College Foundation Trust	7	4
Great Ormond Street Hospital for Children	6	4
Imperial Trust	2	5
Others	31	28
Referring only to Royal Free Foundation Trust[146]	1	1
Royal Free Foundation Trust not in top two preferred providers[147]	13	-
Duplicates[148]	21	-

Source: CCP analysis

[144] Intracranial Procedures Except Trauma with Other Diagnoses - Category 4 (AA09), Muscular, Intracranial Procedures Except Trauma with Other Diagnoses - Category 1 or 2 (AA21), Balance, Cranial or Peripheral Nerve Disorders; Epilepsy; Head Injury (AA26), Multiple Sclerosis (AA30).

[145] A number "0" identifies that there are some referrals in this category, but due to rounding the share is recorded as 0. The dash "-" identifies that there were no referrals in this category.

[146] This group includes referrals originating from the GP practices that only referred to Royal Free Foundation Trust. Under both methodologies, we do not make any inferences about the likely alternative for these referrals.

[147] This group includes referrals originating from the GP practices that do not refer most often or second most often to Royal Free.

[148] Duplicates arise when two providers receive the same number of referrals from a given GP practice. In that case, both providers are assigned the same ranking and they are both considered potential alternatives for the referrals to Royal Free Foundation Trust.

Appendix 3

AB – Pain management

65. Results from the ordinal approach set out in Table 22 below suggest that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for pain management services. Barnet and Chase Farm Trust is the best alternative provider for 13 per cent of referrals to Royal Free Foundation Trust.

66. The rankings of the most important alternative providers obtained from the ordinal and the proportional methodologies are very similar. However, results from the proportional analysis suggest that Barnet and Chase Farm Trust may be the best alternative provider for 21 per cent of current referrals to Royal Free Foundation Trust. This suggests that UCLH and Barnet and Chase Farm Trust are each the best alternative for a very similar share of referrals to Royal Free Foundation Trust.

Table 22 – GP level analysis for pain management elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected/Full chapter[149]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	26	24
Barnet and Chase Farm Trust	13	21
Royal National Orthopaedic Trust	9	13
Whittington Trust	8	14
Imperial Trust	5	10
Barts Trust	2	2
Others	3	15
Referring only to Royal Free Foundation Trust	1	1
Royal Free Foundation Trust not in top two preferred providers	40	-
Duplicates	8	-

Source: CCP analysis

[149] Complex Neurosurgical Pain Procedures (AB01), Complex Major Pain Procedures (AB02), Complex Pain Procedures (AB03), Major Pain Procedures (AB04), Intermediate Pain Procedures (AB05), Minor Pain Procedures (AB06).

Appendix 3

BZ – Eyes and periorbita procedures and disorders

67. Results from the ordinal approach set out at Table 23 below indicate that Moorfields Foundation Trust is the most important alternative provider for the patients referred to Royal Free Foundation Trust for eyes and periorbita procedures and disorders services. The table also suggests that other providers are relatively less important alternatives.

68. The results from the proportional methodology are broadly consistent with those from the ordinal methodology.

Table 23 – GP level analysis for eyes and periorbita procedures and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[150]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Moorfields Foundation Trust	83	72
Imperial Trust	4	6
Barnet and Chase Farm Trust	1	5
North West London Trust	0	3
Barts Trust	0	1
UCLH	0	4
Others	1	10
Referring only to Royal Free Foundation Trust	0	0
Royal Free Foundation Trust not in top two preferred providers	12	-
Duplicates	1	-

Source: CCP analysis

[150] Phacoemulsification Cataract Extraction and Lens Implant (BZ02), Non-Phacoemulsification Cataract Surgery (BZ03), Oculoplastics Category 2 (BZ06), Oculoplastics Category 1 (BZ07), Orbits / Lacrimal category 1 (BZ10).

DZ – Thoracic procedures and disorders

69. Results from the ordinal approach set out at Table 24 – GP level analysis for thoracic procedures and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2012-May 2012 below suggest that Royal Brompton Foundation Trust is the most important alternative provider for patients referred to Royal Free Foundation Trust for thoracic procedures and disorders services. The results also indicate that the second most important alternative provider is UCLH, while Barnet and Chase Farm Trust is the third most important alternative to patients referred to Royal Free Foundation Trust.

70. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 24 – GP level analysis for thoracic procedures and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[151]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Royal Brompton Foundation Trust	24	19
UCLH	18	17
Barnet and Chase Farm Trust	16	14
Imperial Trust	9	7
Great Ormond Street Hospital for Children	6	4
North West London Trust	6	5
Others	25	27
Referring only to Royal Free Foundation Trust	6	6
Royal Free Foundation Trust not in top two preferred providers	16	-
Duplicates	27	-

Source: CCP analysis

[151] Fibre Optic Bronchoscopy (DZ07), Lobar, Atypical or Viral Pneumonia (DZ11), Respiratory Neoplasms (DZ17), Granulomatous, Allergic Alveolitis or Autoimmune Lung Disease (DZ29).

Appendix 3

EA – Cardiac procedures

71. Results from the ordinal approach set out at Table 25 below suggest that Barnet and Chase Farm Trust is the most important alternative provider for patients referred to Royal Free Foundation Trust for cardiac procedures. The other important alternative is UCLH, which is the best alternative for 25 per cent of referrals to Royal Free Foundation Trust. The results from the proportional methodology are consistent with those from the ordinal methodology.

72. Royal Free and Barnet Chase Farm both provide the HRG EA36 - cardiac catheterisation, which is a relatively standard cardiac procedure. This procedure accounts for slightly more than 80 per cent of activity within the selected HRGs subsample for both Barnet and Chase Farm Trust and Royal Free Foundation Trust.

Table 25 – GP level analysis for cardiac procedures elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[152]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Barnet and Chase Farm Trust	40	32
UCLH	25	23
Imperial Trust	9	11
Royal Brompton Foundation Trust	5	8
Barts Trust	3	4
North Middlesex Trust	2	4
Others	6	16
Referring only to Royal Free Foundation Trust	1	1
Royal Free Foundation Trust not in top two preferred providers	24	-
Duplicates	14	-

Source: CCP analysis

[152] Pace 1 - Single Chamber or Implantable Diagnostic Device (EA03), Pace 2 - Dual Chamber (EA05), Catheter (EA36), Pacemaker Procedure without Generator Implant (includes resiting and removal of cardiac pacemaker system) (EA39), Minor Cardiac Procedures (EA44).

FZ – Digestive system and procedures

73. Results from the ordinal approach set out at Table 26 below suggest that UCLH is the most important alternative provider to Royal Free Foundation Trust for digestive system procedures and disorders services. The table also suggests that Barnet and Chase Farm Trust is the second most important alternative, whilst the remaining providers are relatively much less important alternatives. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 26 – GP level analysis for digestive system and procedures elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[153]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	39	29
Barnet and Chase Farm Trust	23	22
Imperial Trust	6	10
Whittington Trust	5	13
North West London Trust	4	10
North Middlesex Trust	1	3
Others	1	12
Referring only to Royal Free Foundation Trust	0	0
Royal Free Foundation Trust not in top two preferred providers	23	-
Duplicates	3	-

Source: CCP analysis

[153] Endoscopic or Intermediate Procedures for Inflammatory Bowel Disease (FZ28), Diagnostic Colonoscopy 19 years and over (FZ51), Diagnostic Flexible Sigmoidoscopy 19 years and over (FZ54), Diagnostic Endoscopic Procedures on the Upper GI Tract 19 years and over (FZ60), Diagnostic Endoscopic Procedures on the Upper GI Tract with Biopsy 19 years and over (FZ61).

GA – Hepatobiliary and pancreatic system surgery

74. Results from the ordinal approach set out at Table 27 below suggest that UCLH and Barnet and Chase Farm Trust are the two most important alternative providers for patients referred to Royal Free Foundation Trust for hepatobiliary and pancreatic system surgery.

75. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 27 – GP level analysis for hepatobiliary and pancreatic system surgery elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[154]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	23	19
Barnet and Chase Farm Trust	20	17
Imperial Trust	11	9
North Middlesex Trust	10	8
Whittington Trust	9	9
North West London Trust	5	4
Others	25	26
Referring only to Royal Free Foundation Trust	7	7
Royal Free Foundation Trust not in top two preferred providers	14	-
Duplicates	26	-

Source: CCP analysis

[154] Hepatobiliary Procedures Category 5 (GA05), Hepatobiliary Procedures Category 3 (GA07), Cholecystectomy (GA10).

GB – Hepatobiliary and pancreatic system endoscopic procedures

76. Results obtained from the ordinal approach set out at Table 28 below indicate that UCLH and Barnet and Chase Farm Trust are the two most important alternative providers for patients referred to Royal Free Foundation Trust for hepatobiliary and pancreatic system endoscopic procedures. Imperial Trust is the best alternative for 13 per cent of referrals to Royal Free Foundation Trust.

77. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 28 – GP level analysis for hepatobiliary and pancreatic system endoscopic procedures elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[155]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	24	19
Barnet and Chase Farm Trust	20	16
Imperial Trust	13	13
North Middlesex Trust	9	7
King's College Foundation Trust	7	7
Whittington Trust	5	5
Others	27	26
Referring only to Royal Free Foundation Trust	7	7
Royal Free Foundation Trust not in top two preferred providers	12	-
Duplicates	24	-

Source: CCP analysis

[155] Endoscopic/Radiology Category 3 (GB02), Endoscopic/Radiology Category 1 (GB04), Endoscopic Retrograde Cholangiopancreatography Category 2 (GB06), Endoscopic Retrograde Cholangiopancreatography Category 1 (GB07).

HB – Orthopaedic non-trauma procedures

78. Results from the ordinal approach set out at Table 29 below indicate that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for orthopaedic non-trauma procedures. The other two important alternative providers, which together are the best alternative providers for 25 per cent of orthopaedic non-trauma referrals to Royal Free Foundation Trust, are Barnet and Chase Farm Trust and the Royal National Orthopaedic Trust.

79. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 29 – GP level analysis for orthopaedic non-trauma procedures elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[156]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	27	24
Barnet and Chase Farm Trust	15	17
Royal National Orthopaedic Trust	10	10
Imperial Trust	6	7
Whittington Trust	6	9
North West London Trust	4	7
Others	5	25
Referring only to Royal Free Foundation Trust	0	0
Royal Free Foundation Trust not in top two preferred providers	40	-
Duplicates	12	-

Source: CCP analysis

[156] Major Hip Procedures for non Trauma Category 1 (HB12), Major Knee Procedures for non Trauma Category 2 (HB21), Intermediate Knee Procedures for non Trauma (HB23), Minor Hand Procedures for non Trauma Category 2 (HB55), Major Shoulder and Upper Arm Procedures for non Trauma (HB61).

HC – Spinal surgery and disorders

80. Results from the ordinal approach set out at Table 30below indicate that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for spinal surgeries and disorders services. Barnet and Chase Farm Trust is the second most important alternative provider, followed by the Royal National Orthopaedic Trust, which is the best alternative for 20 per cent of referrals to Royal Free Foundation Trust for spinal surgeries and disorders services.

81. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 30 – GP level analysis for spinal surgery and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[157]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	34	27
Barnet and Chase Farm Trust	23	17
Royal National Orthopaedic Trust	20	15
East and North Hertfordshire Trust	7	4
West Hertfordshire Hospitals	7	7
Imperial Trust	6	5
Others	20	19
Referring only to Royal Free Foundation Trust	6	6
Royal Free Foundation Trust not in top two preferred providers	13	-
Duplicates	36	-

Source: CCP analysis

[157] Extradural Spine Major 2 (HC01), Extradural Spine Major 1 (HC02), Extradural Spine Intermediate 2 (HC03), Extradural Spine Intermediate 1 (HC04), Degenerative Spinal Conditions (HC27).

HD – Musculoskeletal disorders

82. Results from the ordinal approach set out at Table 31 below suggest that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for musculoskeletal disorders services. Although Barnet and Chase Farm Trust is the second most important alternative provider and the Royal National Orthopaedic Trust is the third most important provider, they each are the best alternative provider for a much smaller share of current referrals to Royal Free Foundation Trust than UCLH.

83. Results from the proportional methodology suggest that the Royal National Orthopaedic Trust is the best alternative for 15 per cent of referrals and therefore is the second most important alternative provider, whilst results from the ordinal methodology would indicate that the Royal National Orthopaedic Trust is the third most important alternative.

Table 31 – GP level analysis for musculoskeletal disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[158]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	41	34
Barnet and Chase Farm Trust	13	12
Royal National Orthopaedic Trust	12	15
Imperial Trust	8	8
North West London Trust	6	7
Luton and Dunstable University Hospital	2	2
Others	17	20
Referring only to Royal Free Foundation Trust	3	3
Royal Free Foundation Trust not in top two preferred providers	13	-
Duplicates	15	-

Source: CCP analysis.

[158] Soft Tissue Disorders (HD21), Inflammatory Spine, Joint or Connective Tissue Disorders (HD23), Non-Inflammatory Bone or Joint Disorders (HD24).

Appendix 3

JA – Breast procedures and disorders

84. Results from the ordinal approach set out at Table 32 below suggest that Barnet and Chase Farm Trust is the most important alternative provider for patients referred to Royal Free Foundation Trust for breast procedures and disorders services. Whittington Trust is the best alternative provider for 14 per cent of referrals, whilst the remaining providers are each the best alternative provider for no more than 10 per cent of current Royal Free Foundation Trust's referrals.

85. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 32 – GP level analysis for breast procedures and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[159]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Barnet and Chase Farm Trust	24	21
Whittington Trust	14	12
Barts Trust	10	9
West Hertfordshire Hospitals	10	9
UCLH	9	7
North Middlesex Trust	6	6
Others	26	31
Referring only to Royal Free Foundation Trust	4	4
Royal Free Foundation Trust not in top two preferred providers	15	-
Duplicates	17	-

Source: CCP analysis

[159] Major Breast Procedures category 3 (JA06), Major Breast Procedures category 2 (JA07), Intermediate Breast Procedures (JA09), Minor Breast Procedures (JA15), Mastectomy with Breast Reconstruction (JA16).

JC – Skin surgery

86. Results from the ordinal approach set out in Table 33 below indicate that Barnet and Chase Farm Trust is the most important alternative provider for patients referred to Royal Free Foundation Trust for skin surgery services. The table also suggests that UCLH and Whittington Trust are each the best alternative provider for a much smaller share of referrals to Royal Free Foundation Trust.

87. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 33 – GP level analysis for skin surgery elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[160]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Barnet and Chase Farm Trust	32	27
UCLH	15	14
Whittington Trust	12	11
Imperial Trust	8	7
West Hertfordshire Hospitals	7	6
North West London Trust	6	5
Others	22	29
Referring only to Royal Free Foundation Trust	0	0
Royal Free Foundation Trust not in top two preferred providers	9	-
Duplicates	11	-

Source: CCP analysis

[160] Intermediate Skin Procedures (JC04), Minor Skin Procedures Category 3 (JC05), Skin Therapies Level 3 (JC15), Skin Therapies Level 4 (JC16), Electrical and Other Invasive Therapy 2 (JC18).

KA – Endocrine system disorders

88. Results from the ordinal approach set out at Table 34 below indicate that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for endocrine system disorders services. Barnet and Chase Farm Trust is the second most important alternative, followed by Imperial Trust, which is the best alternative for 23 per cent of referrals to Royal Free Foundation Trust. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 34 – GP level analysis for endocrine system disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[161]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	34	30
Barnet and Chase Farm Trust	25	20
Imperial Trust	23	16
Luton and Dunstable University Hospital	6	5
Barts Trust	5	5
North Middlesex Trust	5	4
Others	22	15
Referring only to Royal Free Foundation Trust	5	5
Royal Free Foundation Trust not in top two preferred providers	6	-
Duplicates	30	-

Source: CCP analysis.

[161] Parathyroid Procedures (KA03), Anterior Pituitary Disorders (KA05), Non Pituitary Endocrine Neoplasms (KA06), Thyroid Procedures (KA09).

LB – Urological and male reproductive system procedures and disorders

89. Results from the ordinal approach set out at Table 35 below indicate that Barnet and Chase Farm Trust and UCLH are the two most important alternative providers for patients referred to Royal Free Foundation Trust for urological and male reproductive system procedures and disorders services. The third most important alternative provider is Whittington Trust, which is the best alternative for 12 per cent of current referrals to Royal Free Foundation Trust.

90. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 35 – GP level analysis for urological and male reproductive system procedures and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[162]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Barnet and Chase Farm Trust	29	29
UCLH	28	25
Whittington Trust	12	13
Imperial Trust	6	7
Great Ormond Street Hospital for Children	5	3
North West London Trust	2	6
Others	5	17
Referring only to Royal Free Foundation Trust	0	0
Royal Free Foundation Trust not in top two preferred providers	25	-
Duplicates	11	-

Source: CCP analysis.

[162] Bladder Major Endoscopic Procedure (LB13), Bladder Intermediate Endoscopic Procedure (LB14), Prostate Transuretheral Resection Procedure (LB25), Penile Conditions and Minor Procedures (LB32), Scrotum, Testis or Vas Deferens Open Procedures (LB34).

MA – Female reproductive system procedures

91. Results from the ordinal approach set out at Table 36 below indicate that Barnet and Chase Farm Trust is the most important alternative provider for patients referred to Royal Free Foundation Trust for female reproductive system procedures. Imperial Trust is the second most important alternative provider, followed by UCLH as the third most important alternative provider.

92. The results from the proportional methodology are consistent with those from the ordinal methodology.

Table 36 – GP level analysis for female reproductive system procedures elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[163]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
Barnet and Chase Farm Trust	30	31
Imperial Trust	22	19
UCLH	14	15
Whittington Trust	9	14
North Middlesex Trust	3	4
North West London Trust	3	6
Others	3	9
Referring only to Royal Free Foundation Trust	1	1
Royal Free Foundation Trust not in top two preferred providers	26	-
Duplicates	10	-

Source: CCP analysis.

[163] Lower Genital Tract Intermediate Procedures (MA04), Upper Genital Tract Major Procedures without Malignancy (MA07), Resection and Ablation Procedures for Intra-uterine Lesions (MA12), Diagnostic Hysteroscopy (MA21), Lower Genital Tract Minor Procedures - Category 2 (MA23).

QZ – Vascular procedures and disorders

93. Results from the ordinal approach set out at Table 37 below indicate that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for vascular procedures and disorders services. The second most important alternative provider is Barnet and Chase Farm Trust, which is the best alternative provider for 25 per cent of referrals, whilst Imperial Trust is the best alternative provider for 11 per cent of referrals to Royal Free Foundation Trust for vascular procedures and disorders services.

94. The results from the proportional methodology are broadly consistent with those from the ordinal methodology.

Table 37 – GP level analysis for vascular procedures and disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[164]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	40	35
Barnet and Chase Farm Trust	25	17
Imperial Trust	11	11
North West London Trust	7	9
North Middlesex Trust	6	4
Great Ormond Street Hospital for Children	4	3
Barts Trust	3	4
Others	10	15
Referring only to Royal Free Foundation Trust	2	2
Royal Free Foundation Trust not in top two preferred providers	19	-
Duplicates	29	-

Source: CCP analysis.

[164] Primary Bilateral Varicose Vein Procedures without CC (QZ09), Primary Unilateral Varicose Vein Procedures without CC (QZ10), Therapeutic Endovascular Procedures (QZ15), Diagnostic Vascular Radiology and other Transluminal Procedures (QZ16), Non-Surgical Peripheral Vascular Disease (QZ17).

SA – Haematological disorders

95. Results from the ordinal approach set out at Table 38 below suggest that UCLH is the most important alternative provider for patients referred to Royal Free Foundation Trust for haematological disorders services. The second most important provider, Barnet and Chase Farm Trust, is the best alternative for 10 per cent of referrals, whilst the remaining providers are each the best alternative for not more than 7 per cent of referrals to Royal Free Foundation Trust.

96. The results from the proportional methodology are broadly consistent with those from the ordinal methodology.

Table 38 – GP level analysis for haematological disorders elective referrals: alternatives to Royal Free Foundation Trust, June 2010-May 2012

	Selected HRGs[165]	
Provider	**Ordinal Method (%)**	**Proportional Method (%)**
UCLH	23	30
Barnet and Chase Farm Trust	10	15
Whittington Trust	7	13
North Middlesex Trust	6	9
North West London Trust	3	7
Princess Alexandra Trust	3	3
Others	9	21
Referring only to Royal Free Foundation Trust	3	3
Royal Free Foundation Trust not in top two preferred providers	44	-
Duplicates	8	-

Source: CCP analysis

[165] Iron Deficiency Anaemia (SA04), Myeloproliferative Disorder (SA07), Single Plasma Exchange, Leucophoresis or Red Cell Exchange (SA13), Acute Myeloid Leukaemia (SA25), Malignant Lymphoma (including Hodgkin's and non-Hodgkin's) (SA31).

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