Anticipated merger of Ashford and St Peter's Hospitals NHS Foundation Trust and Royal Surrey County Hospital NHS Foundation Trust

Appendices and glossary

Terms of reference and conduct of the inquiry

Terms of reference

1. On 26 February 2015, the CMA referred the anticipated merger of ASP and RSC for an in-depth phase 2 investigation.

    1. In exercise of its duty under section 33(1) of the of the Enterprise Act 2002 (**the Act**), the Competition and Markets Authority (**CMA**) believes that it is or may be the case that:

        (a) arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation in that:

            (i) enterprises carried on by or under the control of Ashford and St Peter's Hospitals NHS Foundation Trust will cease to be distinct from enterprises carried on by or under the control of Royal Surrey County Hospital NHS Foundation Trust; and

            (ii) the condition specified in section 23(1)(b) of the Act is satisfied; and

        (b) the creation of that situation may be expected to result in a substantial lessening of competition within a market or markets in the United Kingdom for goods or services, including the supply of several elective (hospital-based) care specialties.

    2. Therefore, in exercise of its duty under section 33(1) of the Act, the CMA hereby makes a reference to its chair for the constitution of a group under Schedule 4 of the Enterprise and Regulatory Reform Act 2013 in order that the group may investigate and report on the following questions in accordance with section 36(1) of the Act:

        (a) whether arrangements are in progress or in contemplation which, if carried into effect, will result in the creation of a relevant merger situation; and

        (b) if so, whether the creation of that situation may be expected to result in a substantial lessening of competition within any market or markets in the UK for goods or services.

Andrea Coscelli
Executive Director, Markets & Mergers
Competition and Markets Authority
26 February 2015

Conduct of our inquiry

2. We published biographies on the members of the inquiry group on 4 March 2015 and the administrative timetable for the inquiry was published on the case page on 26 March 2015.

3. We invited various third parties to comment on the merger. We also sent detailed questionnaires to third party providers, commissioners and patient groups. In addition, we gathered oral evidence through a patient group session at St Peter's Hospital and undertook hearings with selected third parties, comprising third party providers and commissioners. Further evidence from third parties was obtained through telephone conversations and additional written requests. Non-confidential versions of the summaries of hearings with third parties have been published on the CMA website.

4. On 31 March, members of the inquiry group, accompanied by staff, visited the premises of ASP and RSP.

5. On 2 April 2015, we published an issues statement on our website, setting out the main areas of concern upon which the inquiry would focus.

6. We commissioned GfK NOP Limited to conduct patient and GP surveys to assist us in understanding how patient choice for elective treatment might be affected by the merger of ASP and RSC. The results of the surveys have been published on the CMA website.

7. We received written evidence from ASP and RSC, and a non-confidential version of their main submission has been published on the CMA website. We also held a hearing with ASP and RSC on 17 June 2015.

8. In the course of our inquiry we sent to ASP, RSC and third parties some working papers and/or extracts from those papers for comment.

9. A non-confidential version of the provisional findings report has been published on our website.

10. On 4 August 2015 we extended the period of the reference due to the scope and complexity of the inquiry and the delay to access to HES for our analysis. This has had a consequent delay to the publication of our provisional findings. As a result, an extension is necessary to allow sufficient time to take full and

proper account of any comments received in response to the provisional findings and to prepare a fully reasoned final decision.

11. We would like to thank all those who have assisted in our inquiry so far.

Industry background

1. This appendix sets out to following supporting information to the industry background section of the provisional findings report:

   (a) Annex 1: The description of NHS services in general.

   (b) Annex 2: The procurement, patient choice and competition regulations in the NHS.

   (c) Annex 3: The roles of the CMA and Monitor in the context of mergers of foundation trusts.

   (d) Annex 4: An overview of foundation trusts.

   (e) Annex 5: An overview of special measures that apply to NHS trusts and foundation trusts when there have been serious failures in quality of care and there are concerns that existing management cannot make the necessary improvements without support.

Description of NHS services

1. In this annex we describe the main categories of NHS services that are relevant to our consideration of the merger. These categories of services are not legally defined, and they are not mutually exclusive:

   (a) Primary care refers to medical services provided by GP practices, dental practices, community pharmacies and high street optometrists. It is defined by the World Health Organisation (WHO) as 'essential health care; based on practical, scientifically sound, and socially acceptable method and technology; universally accessible to all in the community through their full participation; at an affordable cost; and geared toward self-reliance and self-determination'.

   (b) Secondary care is medical care provided by specialists in a particular field of medicine, whether in a hospital or community setting. Patients are referred to these specialists by a primary care doctor, commonly a GP. Examples of specialists include cardiologists, gynaecologists and psychiatrists.

   (c) Tertiary care refers to services provided in more specialised medical centres, often covering a much wider geographical area than primary or secondary care services; examples include specialist centres in neurosurgery, paediatric cardiac surgery and cancer care. Patients may be referred to tertiary care by their GP or by a secondary care consultant. Tertiary services may require significant investments in specialised equipment and on-site facilities;

   (d) Community health services is a term used to describe a diverse range of services that are provided to patients in the home, in health centres, schools, community buildings or in small local hospitals. Services include: health visiting, school nursing, community nursing, nutrition and dietetics, occupational therapy, speech and language therapy and diabetes care.

   (e) Diagnostic services are services used for the analysis or detection of diseases or other medical conditions.

   (f) Acute care is a term used to describe care that is delivered in a hospital setting.

   (g) An elective service is one that is scheduled in advance for a particular patient (for example a scheduled operation). Generally, the decision to

admit the patient is separated in time from the actual admission. Elective services are provided by medical specialists in a hospital or other secondary care setting.

(h) Non-elective services are not scheduled in advance; they arise when **admission is unpredictable and at short notice because of clinical need**. A particular service can be provided on an elective or non-elective basis. For example, an elective Caesarean section is a planned Caesarean, when the need for the procedure is agreed in advance and the operation takes place before the natural onset of labour. An emergency (non-elective) Caesarean section is carried out when the need for a Caesarean is urgent. This may happen if an elective Caesarean was planned but labour started earlier than expected, if there are complications with the pregnancy or labour, or if labour has stopped or is very slow.

(i) Outpatient services are provided by a healthcare organisation on an appointment basis without the need for a patient to be admitted or stay in hospital. An outpatient appointment may be used to assess further treatment or to follow up a patient after he or she has had a period of treatment or an operation, as well as for treatment itself. Increasingly, procedures that would have previously been done as an inpatient case, such as Colposcopy and Cystoscopy, are being done in an outpatient setting. Outpatient services cover a wide range of specialities. These services can be linked to either elective or non-elective care pathways. The Parties consider that the facilities and other inputs necessary to provide outpatient services are less complex and costly than those required for inpatient activity.

(j) Inpatient services are services provided to patients who have been admitted to hospital, either as day-cases or for a longer period of time. These services are also linked to elective or non-elective care pathways.

2. A hospital admission records the event that a clinical decision to admit a patient to a particular healthcare provider has been made by or on behalf of someone who has the right of admission. The decision to admit denotes that the patient is intended to be admitted to a hospital bed, either immediately or subsequently.

3. A day-case is where a patient is admitted electively during the course of a day with the intention of receiving care, who does not require the use of a hospital bed overnight and who returns home as scheduled. If this original intention is not fulfilled and the patient stays overnight, this will be an inpatient admission.

Procurement, patient choice and competition regulations

1. These Regulations impose requirements on the NHS Commissioning Board ('the Board') and clinical commissioning groups (CCGs) in order to ensure good practice in relation to the procurement of healthcare services for the purposes of the NHS, to ensure the protection of patients' rights to make choices regarding their NHS treatment and to prevent anti-competitive behaviour by commissioners with regard to such services.

2. Part 2 of the Regulations imposes requirements on the Board and CCGs (together referred to as 'relevant bodies') in relation to procurement, patient choice and anti-competitive behaviour. Regulation 2 lays down a general objective for relevant bodies when procuring healthcare services for the purposes of the NHS.

3. Regulation 3 lays down general requirements that apply to the procurement of healthcare services for the purposes of the NHS. This includes requirements for procurement to be carried out in a transparent and proportionate manner and for providers to be treated equally and in a non-discriminatory way.

4. Regulations 4 and 5 provide for requirements relating to transparency in the award of contracts for the provision of healthcare services for the purposes of the NHS. Where a relevant body is advertising an intention to seek offers from providers to provide services, it must publish a contract notice on a website maintained by the Board (regulation 4(1) and (2)). A relevant body need not advertise an intention to seek such offers where it is satisfied that the services are only capable of being provided by a particular provider (regulation 5).

5. Regulation 6 prohibits the award of a contract by a relevant body for the provision of NHS healthcare services where conflicts between the interests in commissioning the services and the interests in providing them affect, or appear to affect, the integrity of the award of the contract.

6. Regulation 7 requires a relevant body to establish and apply transparent, proportionate and non-discriminatory criteria for the purposes of taking certain decisions in relation to the provision of healthcare services for the purposes of the NHS.

7. Regulation 9 requires relevant bodies to maintain and publish a record of all contracts entered into by them for the provision of healthcare services for the purposes of the NHS.

8. Regulation 10 lays down a general prohibition on anti-competitive behaviour by relevant bodies, except where it is in the interests of people who use NHS healthcare services.

9. Regulation 11 requires the Board not to restrict the ability of a person to apply for inclusion in the list of patients of a practice providing primary medical services, or to express a preference to receive such services from a particular medical practitioner or class of medical practitioner.

10. Regulation 12 places a requirement on relevant bodies to offer a choice of alternative provider in accordance with regulation 48(4) of the National Health Service Commissioning Board and Clinical Commissioning Groups (Responsibilities and Standing Rules) Regulations 2012 ('the 2012 Regulations'), in the circumstances laid down in regulation 47 of the 2012 Regulations.

11. Part 3 of the Regulations provides Monitor with powers to investigate and take enforcement action in relation to breaches of the requirements imposed on relevant bodies by these Regulations and regulations 39, 42 and 43 (choice of health service provider) of the 2012 Regulations. These include powers for Monitor to declare arrangements for the provision of healthcare services for the purposes of the NHS to be ineffective (regulation 14), to give directions to a relevant body (regulation 15), and to accept undertakings from a relevant body (regulation 16).

12. Regulation 17 provides that a person who has brought an action for loss or damages under the Public Contracts Regulations 2006 may not bring an action for the same loss or damage resulting from a breach of these Regulations or of regulation 39, 42 or 43 of the 2012 Regulations.

13. Regulation 18 revokes the National Health Service (Procurement, Patient Choice and Competition) Regulations 2013 (S.I. 2013/257), which are replaced by these Regulations.

Review of mergers by Monitor and the CMA

1. The merger of two foundation trusts may be subject to types of assessment:

   (a) an assessment of competitive effects by the CMA under the merger provisions of the Act to determine if the merger may be expected to lead to a substantial lessening of competition (referred to as an SLC, or SLC test) in any market(s) in the United Kingdom; and

   (b) a transactional assessment by Monitor.

2. This annex briefly outlines the roles of the CMA and Monitor in the context of mergers of foundation trusts.

Assessment of competitive effect

3. Under the HSCA 2012, Monitor has functions related to mergers involving foundation trusts, namely to provide advice to the CMA on relevant customer benefits.[1] In addition, mergers between two or more NHS trusts only are subject to review by Monitor. Monitor provides advice to the NHS Trust Development Authority (TDA) on the impact that mergers between NHS trusts will have on choice and competition. As far as possible, Monitor adopts an approach that is consistent with the approach taken by the CMA for foundation trusts and other enterprises. Further information can be found in Annex B of the partnership agreement between Monitor and the TDA.[2]

Jurisdiction of the CMA

4. Under the merger provisions of the Act, the CMA has jurisdiction to review certain mergers in the event that there is a realistic prospect of an SLC. Mergers fall within the remit of the CMA where two or more enterprises cease to be distinct and either the share of supply or turnover threshold stipulated in the Act is met.

5. For a relevant merger situation to be created, two or more enterprises must cease to be distinct.[3] An enterprise is defined as: the activities, or part of the activities, of a business. Business, in turn, is defined to include: a professional

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[1] Section 79(5) of HSCA 2012.
[2] Partnership Agreement between NHS Trust Development Authority and Monitor.
[3] In addition, for a relevant merger situation arise, one of the two jurisdictional tests in the Act must be satisfied, ie the turnover of the acquired entity must exceed £70 million in the last financial year, or the 25% share of supply test must be satisfied.

practice and includes any other undertaking which is carried on for gain or reward or which is an undertaking in the course of which goods or services are supplied otherwise than free of charge.

6. In the context of a merger between two foundation trusts, there is no need to examine whether the foundation trusts are 'enterprises' because the HSCA 2012 expressly provides that the merger provisions of the Act apply in this situation. It provides at section 79 that such a merger is to be treated as being a case in which two or more enterprises cease to be distinct.

7. The government's Explanatory Notes for section 79 make explicit the intention of the HSCA 2012 to give the CMA exclusive jurisdiction over mergers between foundation trusts.

8. This clause applies Part 3 of the Act, which sets out the general merger control regime for enterprises in the UK, to foundation trusts where it would otherwise be uncertain as to whether those provisions would apply to them. This clause is intended to avoid legal uncertainty as to when the merger control regime in Part 3 of the Act would apply to mergers involving foundation trusts. This provision allows for a single regime for merger control, which avoids duplication of the roles of Monitor and the CMA.

9. Therefore, the merger of two foundation trusts is to be treated as though it were a merger under Part 3 of the Act, provided the turnover or share of supply test is met, such that a merger therefore falls within the jurisdiction of the CMA.[4]

Monitor's transactional assessment of mergers

10. Monitor's transactional assessment[5] process is designed to ensure that the prospective merged entity will be legally constituted, well-governed, financially viable, and guided by a robust post-integration plan. The process allows the merging parties to work with Monitor to identify potential risks and to ensure that those risks are properly considered and assessed.

11. Monitor requires merging parties to make a number of submissions regarding the proposed transaction, including: a business case setting out the reasons for the merger and noting any proposed reconfiguration of services; a long-term financial model exhibiting financial forecasts for the combined entity for a period of five years; due diligence to ensure that the merging entities are aware of the risks to which they are subject as a result of the transaction; the

[4] The legislation does not clarify jurisdiction over mergers that fall below the turnover/share of supply thresholds in the Act, or mergers of other types of NHS organisations.
[5] *Overview of the Monitor transaction assessment process*, Monitor guidance document (February 2013).

business draft form transfer agreement; and submissions pertaining to the governance of the integrated entity, detailing what arrangements have been put in place to ensure high-quality governance.

12. In addition, Monitor normally requires the opinions of independent accountants on various matters pertaining to the financial health of the merged entity, including its working capital, financial reporting procedures and post-transaction integration plan.

13. Monitor also conducts meetings with key leaders in both organisations and meets with the proposed Board of the new organisation to address major issues.

14. At the end of this process, Monitor issues risk ratings for the merged entity.

15. Trusts that do not address risks which Monitor has identified will be subject to Monitor's regulatory intervention powers.

16. If an application to Monitor to permit a merger is successful, Monitor must specify the property and liabilities to be transferred to the new foundation trust[6] and make an order dissolving the two merging foundation trusts and transferring their property and liabilities to the new organisation.[7] Such an order is conclusive evidence of incorporation and conclusive evidence that the corporation is a foundation trust.[8] The Secretary of State for Health's consent is not required in these circumstances.

[6] The NHSA 2006, section 57(1).
[7] The NHSA 2006, section 57(2).
[8] The NHSA 2006, section 57 (2A).

Foundation trusts

Governance

1. NHS foundation trusts are public benefit corporations that are authorised to provide goods and services for the purposes of the health service in England. Public benefit corporations are bespoke legal entities originally created by the Health and Social Care (Community Health and Standards) Act 2003 (the 2003 Act)[9] and now governed by the NHS Act 2006,[10] as amended by the HSCA 2012.

2. Public benefit corporations are required to have a constitution[11] which includes the provisions required by statute and may include further provisions which are consistent with statute.[12]

3. Public benefit corporations have members who are either: *(a)* individuals living in the area that is specified as a constituency in the corporation's constitution (referred to as a public constituency); *(b)* employees (staff constituency); and *(c)* patients of the hospital and carers of those patients (patient constituency). The minimum number of members of each constituency must be stated in the constitution. Individuals may apply, or be invited by the corporation, to become members.[13]

4. Public benefit corporations have a council of governors, who are either appointed or elected by members of the corporation.[14] The NHS Act 2006 (as amended) lays down various requirements relating to the council of governors, including its composition, the election or appointment of governors, payment of expenses and provisions that must be contained in its constitution.[15]

5. Public benefit corporations have a board of directors which is capable of exercising all the powers of the corporation on its behalf.[16] In addition, the constitution may provide that duties may be delegated to a committee of directors or an executive director.[17] The board consists of executive directors

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[9] The 2003 Act, section 1(1) (repealed by the National Health Service (Consequential Provisions) Act 2006, section 6, Schedule 4).
[10] The NHSA 2006, Chapter 5.
[11] The NHSA 2006, Schedule 7, paragraph 1(1).
[12] The NHSA 2006, Schedule 7, paragraph 1(2).
[13] The NHSA 2006, Schedule 7, paragraph 3-6.
[14] The NHSA 2006, Schedule 7, paragraph 7.
[15] The NHSA 2006, Schedule 7, paragraphs 7–14.
[16] The NHSA 2006, Schedule 7, paragraph 15(1).
[17] The NHSA 2006, Schedule 7, paragraph 15(3).

(including the Chief Executive and the Finance Director) and non-executive directors (one of whom is the Chairman).[18] There are various other legal requirements relating to the appointment and removal of directors.[19]

6. The corporation must keep a register of members, governors and directors. The constitution must make provision for dealing with conflicts of interests.[20] The constitution also sets out in the procedures for meetings, eligibility for posts, terms of office, remuneration, disqualification and removal and how to deal with vacancies.

7. A public benefit corporation must produce an annual report[21] and a set of audited accounts.[22] The latest versions of these documents must be available for inspection by members of the public free of charge, as well as the current constitution and authorisation and the latest information as to forward planning.[23]

Borrowing

8. Foundation trusts may borrow money for the purpose or in connection with their functions.[24]

9. The Secretary of State may give financial assistance to NHS foundation trusts. The Secretary of State has issued guidance that clarifies the principles on which a loan will be granted and the consequences of failing to comply with the terms to which the loan is subject.[25]

Public dividend capital

10. Public dividend capital (PDC) represents the Department of Health's equity interest in defined public assets across the NHS. It constitutes an asset of the Consolidated Fund and is provided by the Department of Health in exceptional circumstances where additional capital is required.

11. The Department of Health is required to make a return on its net assets. A charge, reflecting the cost of the capital utilised by the foundation trust, is payable as public dividend capital dividend and is calculated based on net

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[18] The NHSA 2006, Schedule 7, paragraph 16(1).
[19] The NHSA 2006, Schedule 7, paragraphs 16(2)–18.
[20] The NHSA 2006, Schedule 7, paragraph 20-21.
[21] The NHSA 2006, Schedule 7, paragraph 26(1).
[22] The NHSA 2006, Schedule 7, paragraph 25(4).
[23] The NHSA 2006, Schedule 7, paragraph 22.
[24] The NHSA 2006, section 46(1)
[25] The NHSA 2006, section 42A, as inserted by section 163(6) of HSCA 2012.

assets on the balance sheet.[26] We understand that foundation trusts are required to make the annual dividend payment regardless of whether they have surplus cash or are making operating deficits.[27] A dividend is not payable if the foundation trust has net liabilities on its balance sheet. The PDC of an NHS trust which then subsequently receives foundation trust status, continues as PDC for the foundation trust under the same conditions. Foundation trusts currently pay PDC dividends on the same terms as NHS trusts.

Protection of property

12. The provider licence includes a condition which provides that the licensee will not dispose of certain assets without the consent in writing of Monitor, in circumstances where Monitor has concerns about the licensee's ongoing ability to continue as a going concern.

[26] The charge is calculated at the rate set by HM Treasury (currently 3.5%) on the average relevant net assets of the foundation trust during the financial year. Relevant net assets are calculated as the value of all assets less the value of all liabilities, except for *(a)* donated assets (including lottery funded assets), *(b)* net cash balances held with the Government Banking Services (GBS), excluding cash balances held in GBS accounts that relate to a short-term working capital facility, and *(c)* any PDC dividend balance receivable or payable.
[27] HSCA 2012, section 163 – Financial powers etc.

Special measures

1. Special measures apply to NHS trusts and foundation trusts in which there have been serious failures in quality of care and there are concerns that existing management cannot make the necessary improvements without support. Special measures consist of a set of specific interventions designed to improve the quality of care within a reasonable time.

2. Monitor works with other healthcare regulators, including the CQC, which identifies failures in the quality of care and requests Monitor to place a trust in special measures.

3. Under special measures, Monitor can:

   (a) require the foundation trust to go into partnership with another appropriate organisation to provide support and improvement;[28]

   (b) require the trust to produce and publish progress with respect to improvement plans;

   (c) review the capability of the trust's leadership; [29]

   (d) take appropriate regulatory action in line with its powers as set out in its Enforcement Guidance; and

   (e) appoint an improvement director to provide assurance of the trust's approach to improving performance.[30]

4. If a foundation trust's problems become very serious, Monitor can appoint a contingency planning team (CPT). Monitor expects that the CPT will work with local commissioners and providers to assess the situation at the foundation trust and to consider possible options for safeguarding services for patients.

5. Where a foundation trust is likely to fail financially or where there has been a serious quality failure, Monitor can appoint a trust special administrator (TSA) to take control of the foundation trust's affairs and work with local NHS

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[28] Partnering (or buddying) is not limited to foundation trusts – it could equally be NHS trusts or even third/private sector organisations where the correct skills exist.
[29] Special measures does not allow Monitor to replace leadership. Monitor reviews it as part of special measures and if it needs to change the ownership, Monitor has to go through its formal enforcement process as for any trust in breach of its licence.
[30] There is no suspension of the trust's autonomy. There is an overlay of legal regulatory action through either Enforcement Undertakings (section 106) or discretionary requirements (section 105) or an additional licence condition (section 111). The legal status as an autonomous body remains unchanged.

commissioners and other stakeholders to ensure that patients continue to have access to the services they need

6. Monitor supervises the governance and financial performance of foundation trusts. If a foundation trust is found to be failing clinically or financially, Monitor has the power to appoint a TSA. The trust special administration provisions are set out in sections 65A–65O of the NHS Act 2006.[31] TSAs are required to make recommendations to Monitor to resolve the situation of clinical or financial failure. The proposed solution is likely in most cases to involve merging all or part of the business of the failing trust with another foundation trusts or NHS trust. The Secretary of State has similar powers to appoint TSAs in relation to failing NHS trusts.[32]

7. The failure of a trust creates, at the very least, uncertainty as to the future treatment of patients. TSAs are required to report in accordance with a statutory timetable that reflects the urgency of the situation. TSAs are required to publish their proposals for consultation in a draft report and take account of the responses received.

8. Following consultation, a TSA has 15 working days to finalise its report. Monitor has the power to extend the time allowed for preparing the draft and final reports and the consultation if it thinks it is not reasonable in the circumstances for the administrator to be required to carry out those duties within the period specified in the HSCA 2012.[33]

9. Monitor then has 20 working days to consider whether it is satisfied with the report and that the TSA has properly carried out its duties, after which the Secretary of State has 30 working days to determine whether he or she is satisfied with the proposals (and that certain other criteria have been met) or remit them to the TSA for revision.

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[31] The trust special administration provisions are set out in sections 65A–65O of the NHSA 2006. As inserted by section 174 HSCA 2012 and amended by the Care Act 2014. TSAs were appointed to Mid Staffordshire NHS Foundation Trust by Monitor in April 2013 on the basis that the trust was financially unsustainable. This was the first time that Monitor has exercised the power to appoint a TSA in relation to a foundation trust. In October 2014, Monitor made an order providing for the dissolution of the trust and the transfer of its assets to the Secretary of State. In a back to back transfer, those assets were then transferred to two different NHS trusts.
[32] The first such case was South London Healthcare NHS Trust. Subsequent to the TSA's report, the Secretary of State has ordered its dissolution by October 2013.
[33] Section 65J(2) read with section 65J(5) of the NHSA 2006.

Reallocation methodology

Summary

1. Inconsistently coded specialty data across trusts can cause analysis to misstate the extent to which trusts provide the same services, and how closely they compete.

2. The Parties suggested that we should undertake an analysis of our data to generate a list of activities which should be recoded.

3. We use as our starting point those specialties the Parties submitted are often cross-coded. The methodology we have developed identifies the most important aspects of a patient's care (prognoses), using information on the payment mechanism to determine this. It then identifies a set of benchmark hospitals which code these prognoses consistently in one specialty and, provided the sample sizes are large enough, identifies this specialty as correctly coded.

4. All activity in these prognoses which is not coded in the 'correct' specialty is then reallocated to the 'correct' specialty from the specialty the parties submitted was cross-coded.

5. In order to check the sensitivity of different measures used in the reallocation (for example, how we define 'consistent coding'), we generated shares of supply pre- and post- reallocation for a number of different thresholds. We also generated summary statistics for each prognosis.

6. We found that, for the vast majority of specialties, the reallocation is not sensitive to changes in the thresholds. For three of the smaller specialties (Breast Surgery, Colorectal Surgery and Oral Surgery), the change is more substantial. We have therefore balanced the consistency of the sensitivity test results for these specialties, considerations of sample size and the risk that we could miss potential competition concerns when running our analysis.

7. The headline impact of the reallocation is that relative specialty volumes between providers have largely moved between providers in the direction we would expect based on the Parties' submissions and our knowledge of the service ranges offered by providers in the area concerned. Volumes at ASP, RSC and Frimley Park in General Medicine and General Surgery have converged. Further, where pre-reallocation Frimley Park did not appear to perform any Breast Surgery, Vascular Surgery or Colorectal Surgery, post-reallocation Frimley Park appears to perform a material amount.

8. However, we do not think the reallocation has identified all miscoded data; the relative volumes of activity at the Parties and Frimley Park remain very different in General Medicine, and the absolute volume in the general specialties has increased rather than decreased. This is likely to be because the methodology relies on a minimum number of trusts coding activity consistently, and cannot reallocate prognoses with small volumes.

9. Overall, the reallocation has reallocated relative volumes in a manner consistent with other evidence available to us, but it may not identify all activity which is miscoded. It will be important to bear this in mind when interpreting the future analysis.

Introduction

10. This explanation of the methodology begins by outlining the submissions of the Parties in relation to this issue, then provides both a high-level and in-depth summary of the reallocation methodology.

11. This paper proceeds as follows:

    (a) Parties' submissions;

    (b) methodology; and

    (c) summary of the impact on the data.

The Parties' submissions

12. The Parties submitted that HES data contained substantial inconsistencies in the coding of specialties (represented in the data by TFCs). They submitted that this applied in relation to the Parties and other providers in the area.

13. At phase 1, the Parties submitted that there was cross-coding across a broad range of specialties. They also highlighted this in their initial submission at phase 2. Specialties that have been submitted to us as being affected include Breast Surgery, Gastroenterology, Endocrinology, Diabetic Medicine, Geriatric Medicine, ENT, Audiology, Audiological Medicine, Upper Gastrointestinal Surgery, Paediatrics, Transient Ischaemic Attack, Colorectal Surgery and Vascular Surgery.[1]

[1] Vascular Surgery was submitted as a cross-coded specialty in phase 1 by the Parties.

14. If substantial, such miscoding could cause our analysis to misstate the extent to which the Parties currently provide the same services, and how closely the Parties compete with each other and with the other hospitals.

15. The Parties have submitted that we should seek to address such miscoding. In their letter to the CMA dated 15/04/15, the Parties stated that 'for example, if such a reallocation can be applied in relation to General Surgery/Breast Surgery at Frimley Park, this will address one of the key concerns held by the parties about the analysis of referral data', albeit caveating this desire with a caution about complexity and recommending an alternative method of reallocating the activities.

16. The method that has been proposed by the Parties uses estimates of the amount of activity coded at Frimley Park, and distributes this to GP practices in proportion to the amount of General Surgery activity the data shows being referred to Frimley Park, whilst removing General Surgery activity from these practices in the same proportion.

17. Our concern with this approach is that the methodology for reallocating based on these estimates applied a uniform proportion-based reallocation at each GP, which does not take into account differing patient preferences across the miscoded specialties and GP practices.

18. We therefore sought to implement our own reallocation methodology, and submitted to the Parties for consideration a proposed methodology based substantially on that used in the Poole/Bournemouth investigation. This methodology required the Parties to check a list of rules for reassigning the specialty of certain activity.

19. In response, the Parties submitted the following:

> In terms of the specific methodology put forward in the CMA's note for reallocating inpatient procedure and diagnostic codes, we have not undertaken a review of the code itself. We assume that the code will achieve what the CMA is seeking. Rather, we have focused on the lookup tables usef for each of General Medicine and General Surgery.
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> We are not aware of how these look up tables of procedure/ diagnostic codes, which allocate these codes to specific TFCs, were initially derived. This information would be helpful as a means of enabling us to comment on the likely robustness of the CMA's methodology. However as a starting point, we have compared the names of the procedure/diagnostic codes the CMA has provided to the TFCs to which they have been linked by the

CMA. Some of the results appear problematic. For example, the CMA has linked the malnutrition procedure.diagnostic code to the Endocrinology TFC, and the rheumatic fever procedure/diagnostic code to the Cardiology TFC. Also, some of the procedure/ diagnostic codes included in the CMA's tables have not been validly used since 2002.

We suggest that the CMA derives its lookup tables from a statistical analysis of the HES data available to it to see which diagnostic/procedure codes are commonly associated with each TFC code. This analysis could then be verified by clinicians at ASP and RSC.

20. In light of the Parties' submission, we have subsequently developed and implemented another methodology which follows this suggestion of mapping diagnosis and procedure codes to specialty codes and reassigning apparently miscoded data based on these rules. The assumption underlying this approach is that, where a majority of hospitals code most of a given prognosis under one specialty, all activity where another hospital codes that prognosis in a miscoded specialty are incorrect and should be recoded.

Methodology

21. We identify the most important aspect of each patient episode (named a prognosis code), which is either the diagnosis or the procedure which drives the payment to the hospital for that activity. For specialities which we consider may be subject to coding inconsistency across trusts, we then look at which prognosis codes are relatively uniformly coded in certain specialties by a majority of hospitals, and reallocate any episodes containing these prognosis codes.

Data set references

22. In our analysis, we used an extract of HES data on admitted patients between 2010/11 and 2013/14. This contained data on the 33 CCGs with which at least one of the Parties has an NHS Standard Contract.

23. There are the following levels of granularity in the data (starting from the most aggregated level):

    (a) **Spell**. All care given to a patient between their admission to any hospital and discharge is collected into groups called 'spells'.

(b) **Episodes**. All treatments given to a patient under the care **of a given consultant** are grouped together in one episode. A small number of patients receive care from multiple consultants: where this is the case, there will be multiple patient episodes within the same spell.

(c) **Prognosis codes**. We have assigned each episode a prognosis code, which is derived either from the dominant procedure or the primary diagnosis, depending on which drives the payment to the hospital for that activity. The primary diagnosis code is the most resource-intensive diagnosis, and the dominant procedure is the most resource-intensive procedure.

Identifying the benchmark hospitals

24. We are using 24 hospital sites to identify miscoded specialties.[2] We identified benchmark hospitals with reference both to the volumes of activity at these hospitals and their location.[3]

25. On this basis, we identified the top ten hospitals in the data set by activity as well as all those located within or very close to our CCG areas as potential benchmark hospitals. The rationale for only using these sites is that we can be confident that our data is representative of their coding patterns if we have a representative sample of their patients. We only have this for hospitals with smaller volumes of patients if they are located well inside the boundaries of the CCGs on which our data was cut from the HSCIC's full HES data set.

Identifying the specialty for reallocation

26. We ran reallocation on a collection of identifiers we call the 'prognosis code'.[4] We only reallocated activity that is coded in specialties where the Parties have identified there to be cross-coding. These specialties are:

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[2] Because our data was cut from the complete HES data set on the basis of patient CCG rather than their provider, the data will contain only a small amount of activity for some providers near the edges of the 33 CCGs included.

[3] Since our HES extract was cut from the complete HES data set on the basis of the patient's CCG of responsibility rather than their provider, providers outside or at the edges of the CCG area we requested will only have some of their patient set included in our data. If the volume of activity for these is small as a result, our data may not be fully representative of their activity and our identification of coding consistency could be adversely affected. However, if the volumes of activity included in our data set from hospitals outside or at the edge is large, then we would not expect to have small sample size problems. Further, we could include hospitals within the CCG area covered by our data set, as even if their volumes were not very large we would expect it to be representative.

[4] Because procedures are always used to drive payment over diagnoses if they are of any meaningful level, this means that all treatments the hospitals perform will be analysed together. If the procedure is not of a meaningful level, then the rationale for paying the hospital by diagnosis is that this is the next best unit for identifying similar groups of treatments patients will have received. This idea means we should also use diagnoses, where procedures are not meaningful.

(a) General Surgery and Breast Surgery;

(b) General Surgery and Upper Gastrointestinal Surgery;

(c) General Surgery and Vascular Surgery;

(d) General Surgery and Colorectal Surgery;

(e) General Surgery and Gastroenterology;

(f) General Medicine, Gastroenterology and Geriatric Medicine;

(g) General Medicine, Endocrinology and Diabetic Medicine;

(h) General Medicine and Transient Ischaemic Attack;

(i) ENT and Audiology and Audiological Medicine;

(j) Oral Surgery and Maxillo-Facial Surgery; and

(k) Midwife Episodes and Obstetrics.

Identifying miscoded prognoses

27. For each of the potentially cross-coded specialties, we calculated the percentage of each prognosis code in that specialty. The logic behind this approach was that, if the majority of hospitals code a large volume of a prognosis in a specialty, the reason for observing the prognosis in a different specialty would be likely to be miscoding.

28. To ensure that the coding patterns are meaningful to derive miscoding information, we applied the following rules:

    (a) We only benchmarked using hospitals that coded more than 20 episodes over the four years of HES data with a given prognosis code ('the benchmark hospitals'). We tested the sensitivity of this using 20 and 30 episodes as cut-off points.

    (b) We identified the specialty to which to recode a prognosis according to where the majority of benchmark hospitals coded episodes with a given prognosis code in the specialty at least 80% of the time. We tested the sensitivity of this using 70% and 90%.

29. Where the above rules applied, we then reallocated all episodes at any hospital with the given prognosis code and inconsistent specialty into the more commonly specialty identified using the benchmark hospitals.

Sensitivities and checks

30. In order to understand whether varying the thresholds used to identify consistently coded activity with sufficient volumes altered our results, we ran the analysis using different thresholds and compared the results.

31. Specifically, we calculated the shares of supply (based on the catchment area) of ASP, RSC and Frimley Park using pre- and post-reallocation data (for each sensitivity), in order to test the absolute and relative volume changes for the Parties' data, and also at Frimley Park given the Parties' submission that reallocation would have a large impact in respect of that provider.

32. We also generated summary statistics on the reallocation process, giving us information to test the sensitivity of the assumptions and rules that we applied as described above. This consisted of a table giving the following information for each prognosis/specialty combination we have reallocated:

    (a) the number of benchmark hospitals;

    (b) the number of hospitals which coded the prognosis in that specialty (ie the number of hospitals for which reallocation has been applied);

    (c) the mean percentage across all hospitals of episodes with a given prognosis code in the specialty we recoded to; and

    (d) the volume and value of prognosis having its specialty reallocated expressed as a percentage of the volume and value in the potentially miscoded specialties.[5]

33. For both shares of supply and the summary statistics, we generated information flexing the threshold for the minimum level of activity and the threshold for consistency of coding, as described above.

Results of the sensitivity checking

34. Considering the shares of supplies and the sensitivity information, we concluded that the most appropriate thresholds for allocating each prognosis are:

    (a) to define as benchmark hospitals only hospitals which coded at least **20** episodes of the prognosis in the potentially miscoded specialties; and

[5] Here, we have defined values as the volume of the prognosis combinations multiplied by the average revenue obtained by the hospital for that prognosis.

(b) to reallocate prognoses only where the majority of benchmark hospitals coded at least **80%** of the potentially miscoded parts of the prognosis in the same specialty.

35. When choosing the most appropriate level for the consistency threshold, there was a tension between choosing a high threshold to achieve a sufficient level of consistency (so as to minimise the chance of defining a single correct specialty for a prognosis which could validly be coded in several different specialties), and choosing a low enough threshold to account for the substantial amount of inconsistency in coding.

36. When choosing the most appropriate threshold for the minimum level of activity, there was a need to balance the chance of interpreting patterns from what is in fact random variation from small sample sizes, and the chance of setting too high a sample-size criterion and therefore not gaining a sufficient number of benchmark hospitals. There is a trade-off between over-reallocating and under-allocating.

37. Overall, however, we found that the results for each sensitivity were reasonably similar. The reallocation had an impact in 15 of the 18 specialties considered. Of the 15 specialities where there was an impact, two specialties (Transient Ischaemic Attack and Audiology) had volumes that were lower than 30 across the four years. Of the remaining 13, there were 10 specialties where the difference in shares of supply between the highest and lowest sensitivities was small, at around 10%.

38. There were larger differences in three specialties: Breast Surgery, Colorectal Surgery and Oral Surgery. For Breast Surgery and Colorectal Surgery, the largest changes in shares of supply were around 5% when moving between sensitivities using 70% and 80% thresholds, but around 25% when moving between sensitivities using a 80% and 90% threshold. For Oral Surgery, the largest changes in shares of supply were around 50% when moving between sensitivities using thresholds of 70 and 80%, and around 5% when moving between sensitivities of 80 and 90%.

39. Given that the difference between sensitivities for a sizable majority of specialties was not substantial, the choice of rule was not very important. However, to minimise the chance of our analysis failing to identify competition problems, we considered which thresholds were the most cautious whilst remaining realistic, which least often generated results very different from the others, and which balanced the trade-off in relation to sample sizes and over/under-reallocation discussed above.

Summary of the impact on the data

40. The Parties submitted that Frimley Park coded some activity in general specialties where the Parties coded this in specific specialties. The impact of this would be to understate Frimley Park's significance as a competitor in these specific specialties (and to overstate its significance in the general ones).

41. The reallocation has moved Frimley Park activity out of general specialties and into specific specialties. It now appears to code a material volume of activity in Vascular Surgery, Colorectal Surgery and Breast Surgery, and a small amount of volume in Endocrinology.

42. For the Parties, however, activity appears to have been reallocated into the General Specialties. Further, the relative volumes in General Medicine have not converged as much as was expected, and movements in some other specialties, such as Gastroenterology, Diabetic Medicine and Geriatric Medicine, have not been significant.

43. This is likely to be because the methodology relies on a minimum number of trusts coding activity consistently, and cannot reallocate prognoses with small volumes.

44. Overall, we believe that the reallocation has reassigned specialties in a manner consistent with other evidence, and that the methodology is reasonably robust. However general specialties have seen a net increase and relative shifts in volumes have not been as significant as we might expect in some specialties. These factors should be considered when interpreting the results of future analysis.

Checking our results for Frimley Park

45. In order to check our results we had discussions with Frimley Health, which we understand to have used the Main Specialty classification rather than the Treatment Function classification for specialty coding during the period covered by our data set. Frimley Health told us that it used the more granular TFC classification at all sites from 2014/15 and provided us with aggregate volumes at specialty level for Frimley Park.[6]

[6] We focused on Frimley Health as the changes in volume as a result of the reallocation were relatively more significant, because the Parties comments on our reallocation methodology focused around Frimley Park (see their Response to Working Papers & Final Submission pp22-24) and because it frequently appeared to be an important alternative to the Parties.

46. We used the volumes provided by Frimley Health to identify specialties which Frimley Park provides but to which our reallocation methodology was unable to reassign activity, and to qualitatively assess the success of the methodology where we were able to reassign activity.

47. We focused in particular on the four specialties where the referral analysis initially indicated that there could be competition concerns: General Surgery, Breast Surgery, Maxillo-Facial Surgery and ENT. For these specialties, we found the following discrepancies.

Table 1: CMA Frimley Park comparison

	Outpatient first appointments		*Day-case spells*		*Inpatient spells*	
TFC name	*FPH volumes*	*CMA volumes*	*FPH volumes*	*CMA volumes*	*FPH volumes*	*CMA volumes*
Breast Surgery	[✂]	*	[✂]	[✂]	[✂]	[✂]
ENT	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery and Colorectal Surgery combined	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

*represents a number 0–5 which has been suppressed in line with the HSCIC's policy on small numbers.

48. For any given specialty, where the total activity it reported to us for 2014/15 was not within a tolerable margin[7] of the activity in our 2013/14 reallocated data, we interpreted the presence of Frimley Park in our HES analysis as either an overstatement or an understatement of their true presence in that specialty.

[7] Whilst we worked with Frimley Park to ensure that its data was as comparable to ours as possible, some difference in volumes between our data and its data could be an artefact of slightly different cleaning processes. Some could also be attributed to slight increases or decreases in volumes provided in 2014/15 compared with 2013/14.

Geographic market

1. In this paper, we present our view on the geographic aspects of the provision of healthcare services in the area surrounding the Parties.

2. The CMA's guidance on NHS mergers states that in publicly funded healthcare services the relevant geographic market may be based on the location of providers and will be informed by an assessment of the willingness of patients to travel for consultation or treatment (the catchment area).[1]

3. Both trusts are located in Surrey: RSC's main site is Royal Surrey County Hospital (RSCH) in Guildford; ASP has two sites, St Peter's Hospital (SPH) in Chertsey, and Ashford Hospital (AH) in Ashford.

4. In addition to their main hospital sites, both Parties also hold outpatient clinics at different locations. ASP holds 47 different outpatient clinics at 14 other locations across Surrey and South West London. RSC holds 79 different outpatient clinics at 26 other locations across Surrey and further afield.[2]

5. The rest of this appendix presents our analysis on geographical aspects of the Parties' activities.

   (a) We map out the locations of the Parties' main sites, and their relative proximity to other nearby acute hospitals.

   (b) We set out our analysis of what was the nearest hospital to those patients who attended RSCH, SPH and AH. Our findings on this complemented the evidence we heard on the importance that distance to hospital plays in the choice that patients make of which hospital to attend.

   (c) We set out our analysis of the catchment areas of the RSCH, SPH and AH.

6. Ahead of setting out our analyses on the above, we give an outline of the data and of the methodology used in that work.

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[1] NHS Merger Guidance, paragraph 6.40.
[2] Parties' initial submission, paragraph 119.

Data and methodology

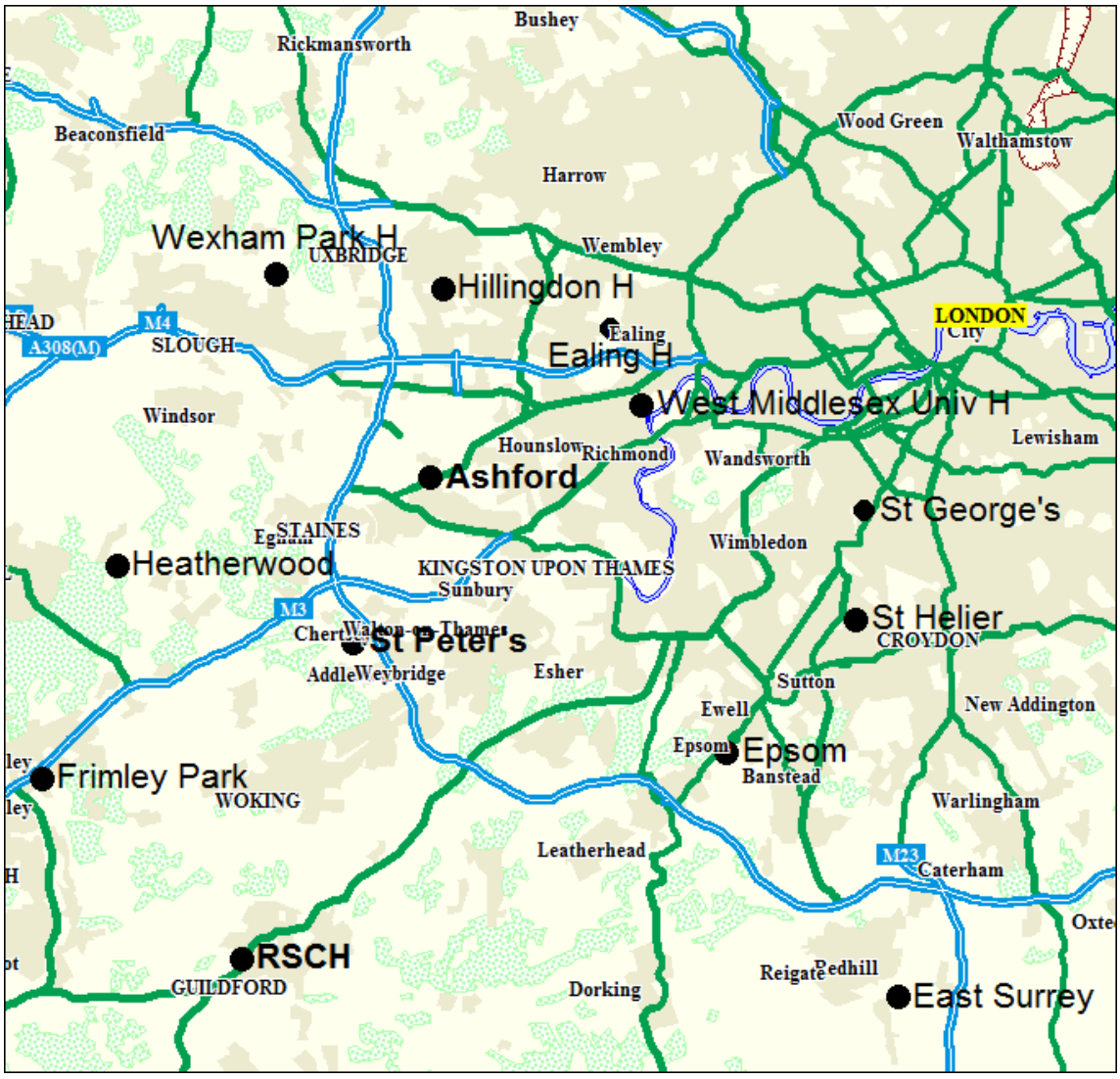
7. We used HES data covering the period 2010 to 2014. The data contains details on the referring GP practice postcode for each episode, which we have considered as a proxy for the patient's location.

8. Where relevant, we used MapInfo software to estimate the drive-time between the main sites of the Parties (RSCH, SPH and AH) and of other nearby hospitals, as well as the distance from hospital sites to the location of GP practices.

Location of hospitals in the Surrey region

9. Figure 1 shows the location of the main sites of the Parties and other nearby hospitals.

Figure 1: Location of Parties' main hospital sites and of other nearby hospitals



Source: CMA.

10. SPH and AH are within 13 minutes' drive-time of each other. RSCH is slightly further away, to the south-west. The drive-time from AH to RSCH is 29 minutes, and from SPH to RSCH it is 20 minutes. The drive-times between RSCH, SPH and ASH and other nearby hospitals are shown in Table 1.

Table 1: Drive-time from main sites of Parties to nearby acute hospitals (minutes)[3]

Hospital site	*Drive-time from (minutes)*		
	AH	*St Peter's*	*RSCH*
AH	-	20	29
SPH	13	-	20
RSCH	29	13	-
West Middlesex Univ Hospital	16	22	39
Hillingdon Hospital	16	21	37
Ealing Hospital	18	29	46
Frimley Park Hospital	21	17	19
Heatherwood Hospital	22	18	27
Wexham Park Hospital	22	26	43
Charing Cross Hospital	24	32	43
Kingston Hospital	26	25	31
Epsom Hospital	32	23	28
St Helier Hospital	41	32	37
Royal Berkshire Hospital	35	34	42
St George's Hospital	42	33	38

Source: CMA analysis.

11. Table 1 shows that there are nine acute hospitals within half an hour's drive of at least one of the Parties' main sites.

Analysis of nearest hospital

12. We examined which was the hospital nearest to those patients who attended RSCH, SPH or AH. We considered outpatients, elective day-cases, elective inpatients, non-elective day-cases and non-elective inpatients separately. We considered that the nearest hospital to a patient would be the one with the smallest drive-time from the GP practice at which the patient was registered.

13. We based our analysis on the sites of the hospitals that were identified by the Parties as being acute hospitals located close to them and we excluded hospitals (eg community hospitals) which we considered would not be reasonable alternatives for many of the patients that attended RSCH, SPH or AH because of the limited services provided.

14. Tables 2 to 6 set out the results of that analysis. For each of RSCH, SPH and AH, the tables show the breakdown of patients in relation to their nearest

[3] The figures in Table 1 are around 10% higher than those submitted by the parties with the exception of drive-time to Frimley Park Hospital – for which our estimate is close to that of the Parties – and of the drive-times to Hillingdon Hospital and to Ealing Hospital for which our estimated drive-time is five and seven minutes respectively higher than that submitted by the parties. We derived our estimates of the drive-time using the MapInfo software, specifying off-peak driving conditions.

hospital. These tables relate to patients across all specialties. A breakdown by specialty is shown in the Annex.

Table 2: Elective outpatients

Hospital site	*Nearest hospital site*	*Number of patients*	*Percentage of patients*
RSCH	RSCH	192,963	75
RSCH	SPH	31,858	12
RSCH	Frimley Park Hospital	15,915	6
RSCH	Epsom Hospital	4,098	2
RSCH	Queen Alexandra Hospital	1,877	1
RSCH	AH	1,294	1
RSCH	Other	9,105	4
SPH	SPH	179,033	68
SPH	AH	69,060	26
SPH	Heatherwood Hospital	2,907	1
SPH	RSCH	2,536	1
SPH	West Middlesex UH	2,431	1
SPH	Other	5,481	2
AH	AH	91,990	66
AH	SPH	30,888	22
AH	West Middlesex UH	10,264	7
AH	Ealing Hospital	1,695	1
AH	Hillingdon Hospital	1,123	1
AH	RSCH	338	0
AH	Other	2,358	2

Source: HES data, CMA analysis.

Table 3: Elective day-cases

Hospital site	*Nearest hospital site*	*Number of patients*	*Percentage of patients*
RSCH	RSCH	89,477	61
RSCH	SPH	18,124	12
RSCH	Frimley Park Hospital	16,003	11
RSCH	East Surrey Hospital	6,233	4
RSCH	AH	3,603	2
RSCH	Other	12,797	9
SPH	SPH	56,688	60
SPH	AH	30,455	32
SPH	West Middlesex UH	1,256	1
SPH	Heatherwood Hospital	1,006	1
SPH	Epsom Hospital	944	1
SPH	RSCH	646	1
SPH	Other	2,775	3
AH	AH	22,062	43
AH	SPH	22,039	43
AH	West Middlesex UH	4,536	9
AH	Ealing Hospital	683	1
AH	Kingston Hospital	341	1
AH	RSCH	319	1
AH	Other	1,287	3

Source: HES data, CMA analysis.

Table 4: Elective inpatients

Hospital site	*Nearest hospital site*	*Number of patients*	*Percentage of patients*
RSCH	RSCH	34,055	67
RSCH	SPH	7,017	14
RSCH	Frimley Park Hospital	2,715	5
RSCH	Epsom Hospital	1,245	2
RSCH	East Surrey Hospital	1,114	2
RSCH	AH	1,056	2
RSCH	Other	3,705	7
SPH	SPH	26,934	59
SPH	AH	15,734	34
SPH	Heatherwood Hospital	563	1
SPH	Hillingdon Hospital	442	1
SPH	West Middlesex UH	358	1
SPH	RSCH	342	1
SPH	Other	1,567	3
AH	SPH	3,044	49
AH	AH	2,658	43
AH	West Middlesex UH	178	3
AH	Heatherwood Hospital	47	1
AH	RSCH	45	1
AH	Other	183	3

Source: HES data, CMA analysis.

Table 5: Non-elective day-cases

Hospital site	*Nearest hospital site*	*Number of patients*	*Percentage of patients*
RSCH	RSCH	15,071	77
RSCH	SPH	1,988	10
RSCH	Frimley Park Hospital	674	3
RSCH	Epsom Hospital	506	3
RSCH	Queen Alexandra Hospital	254	1
RSCH	AH	154	1
RSCH	Other	909	5
SPH	SPH	11,196	61
SPH	AH	5,845	32
SPH	Heatherwood Hospital	280	2
SPH	Kingston Hospital	187	1
SPH	RSCH	165	1
SPH	Other	738	4
AH	SPH	3	43
AH	West Middlesex UH	2	29
AH	AH	2	29

Source: HES data, CMA analysis.

Table 6: Non-elective inpatients

Hospital site	*Nearest hospital site*	*Number of patients*	*Percentage of patients*
RSCH	RSCH	48,338	75
RSCH	SPH	6,813	11
RSCH	Epsom Hospital	2,205	3
RSCH	Frimley Park Hospital	1,998	3
RSCH	AH	904	1
RSCH	Other	4,075	6
SPH	SPH	45,672	60
SPH	AH	24,882	33
SPH	Epsom Hospital	987	1
SPH	Heatherwood Hospital	978	1
SPH	Kingston Hospital	733	1
SPH	RSCH	596	1
SPH	Other	2,307	3
AH	SPH	340	49
AH	AH	311	45
AH	Kingston Hospital	12	2
AH	Heatherwood Hospital	8	1
AH	RSCH	5	1
AH	Epsom Hospital	5	1
AH	Other	10	1

Source: HES data, CMA analysis

15. The tables above show that the majority of patients at RSCH and at SPH attended the hospital to which they were closest to where they lived. At AH, this was the case for elective outpatients but not for patients of other services.

16. The percentage of patients who attended the hospital to which it was quickest for them to drive was higher at RSCH than at either SPH or AH. At RSCH, that percentage varied from 61% for elective day-cases to 77% for non-elective day-cases and was 75% for elective outpatients and non-elective inpatients. At SPH and at AH these percentages are lower.

17. The tables show that a significant proportion of the patients who attended SPH lived nearest to AH, and that the converse was also the case. Across the various services, 90% or more of the patients who attended SPH lived nearest to SPH or to AH. A similar percentage applied to those patients who attended AH.

18. Following on from the above, the tables also show that only a very small percentage (around 1%) of the patients who attended AH or SPH lived in an area for which RSCH was the nearest hospital. On the other hand, we found that 10 to 14% of the patients who attended RSCH lived in areas for which SPH was the closest hospital. Around 1% of patients who attended RSCH lived in areas for which AH was the closest hospital.

19. At each of the three hospital sites, there was some variation across specialties in the breakdown of patients according to which hospital was closest to them (see Annex). The variation was greater at RSCH than at either SPH or AH.

Catchment areas

20. The CC, OFT and CMA have in the past used catchment area analysis[4] to identify the area over which the parties are likely to be important alternatives and as such those where a merger is most likely to affect competitive conditions.[5] Where catchment area analysis is used, the CMA generally considers the area from which 80% of patients travel.

21. We note that catchment areas are a pragmatic approach to identifying the area over which the parties are likely to be important alternatives, and depend on many factors, including drive-times, public transport availability and outpatient clinics. We use the catchment areas as a starting point of reference, and in the competitive assessment we directly examine the constraints on the Parties from other providers in the GP referral analysis, which allows us to infer the strength of each provider as an alternative choice at the GP practice level.

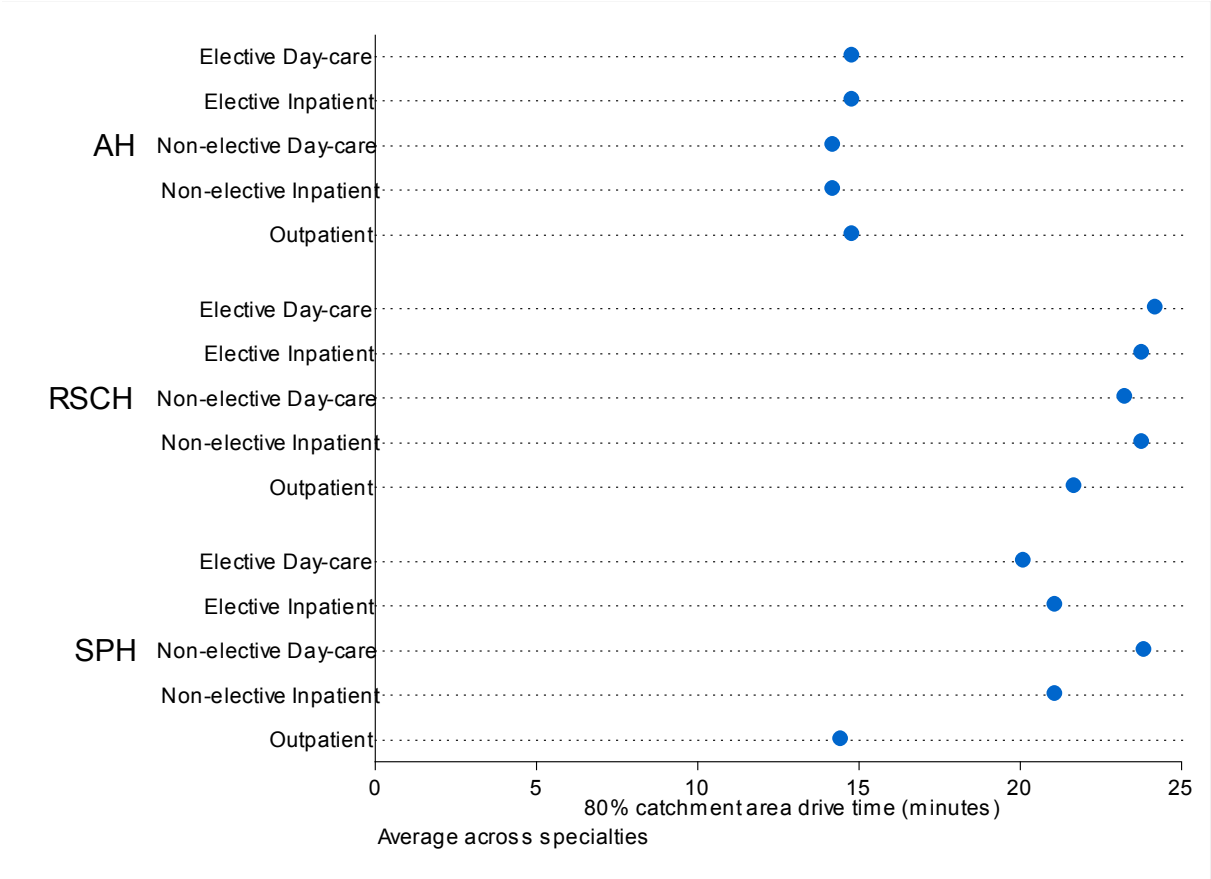
Drive-times

22. We estimated the drive-times between the sites of the Parties and the locations of the GP practices from which they drew patients. We then calculated the drive-times that captured 80% of the patients treated by each Party.

23. Figure 2 shows the results of this analysis across specialties.

[4] Catchment area analysis considers where the parties draw the majority of their referral volumes from.
[5] See for example Bournemouth and Poole report, paragraphs 5.54–5.71.

Figure 2: Drive-time for 80% catchment area, across specialties (minutes)



Source: HES data, CMA analysis

24. Figure 2 shows that the drive-time associated with the 80% catchment area of AH was smaller than that of SPH or RSCH. It was around 14 to 15 minutes for AH and between 20 to 25 minutes for the other two hospital sites, with the exception of the outpatient service at SPH which had an average drive-time of 14 minutes.

25. The chart suggests that outpatients at RSCH and, particularly, at SPH came from areas closer to the hospital site, in terms of drive-time, than was the case for patients using other services. At AH there was little difference between the drive-time associated with the 80% catchment area for outpatients and that associated with the 80% catchment area in respect of each of the other services.

26. We examined whether there had been any significant changes over time in the drive-times associated with the 80% catchment areas of each of the Parties' main sites. We calculated the drive-time associated with the 80% catchment area for each year in the period covered by the HES data, which was 2010/2011 to 2013/2014. Table 7 shows that this drive-time remained stable over the four years, when all specialties were considered together.

Table 7: Drive-time for 80% catchment area over time, across specialties

minutes

Hospital	*Service*	*2010/11*	*2011/12*	*2012/13*	*2013/14*	*2010/11 to 2013/14*
RSCH	Elective day-case	24	24	24	24	24
RSCH	Elective inpatient	24	24	24	24	24
RSCH	Elective outpatient	21	21	22	23	22
RSCH	Non-elective day-case	23	24	23	24	23
RSCH	Non-elective inpatient	24	24	24	24	24
SPH	Elective day-case	15	15	15	15	15
SPH	Elective inpatient	15	15	15	15	15
SPH	Elective outpatient	15	15	14	14	15
SPH	Non-elective day-case	14	15	14	14	14
SPH	Non-elective inpatient	14	14	14	14	14
AH	Elective day-case	18	21	20	21	20
AH	Elective inpatient	21	21	21	21	21
AH	Elective outpatient	14	14	15	15	14
AH	Non-elective inpatient	18	21	21	21	21

27. We considered the drive-time associated with the 80% catchment areas for each specialty, at each of the parties' main hospitals. Our findings are shown in Tables 8, 9 and 10.

Table 8: Drive-time within which RSCH draws 80% of its patients, by specialty and setting

minutes

	Elective			*Non-elective*		
Specialty	*Outpatient*	*Inpatient*	*Day-case*	*Inpatient*	*Day-case*	*Total number of patients*
Accident & Emergency	-	-	-	23	23	3,515
Adult Mental Illness	-	-	-	-	-	-
Anaesthetics	17	24	-	11	-	[✂]
Anticoagulant Service	18	-	-	-	-	114
Audiology/Audiological Medicine	21	-	26	-	26	4,695
Breast Surgery	24	24	24	31	35	10,250
Cardiac Rehabilitation	-	-	-	-	-	-
Cardiology	18	21	18	21	24	15,922
Cardiothoracic Surgery	21	-	12		10	17
Chemical Pathology	18	-	31	13	-	796
Clinical Haematology	18	23	23	23	21	7,346
Clinical Immunology and Allergy Service	36	25	28	18	18	5,463
Clinical Microbiology	-	-	-	18	-	[✂]
Clinical Oncology (Previously Radiotherapy)	36	-	-	37	-	299
Clinical Psychology	-	-	-		-	-
Colorectal Surgery	23	24	24	24	23	777
Dermatology	18	39	19	18	-	17,415
Diabetic Medicine	21	2	20	24	23	1,621
Dietetics	-	-	-		-	-
ENT	22	29	24	29	29	28,067
Endocrinology	23	6	6	24	18	2,998
Gastroenterology	20	24	23	23	23	27,063
General Medicine	23	21	24	23	18	3,466
General Surgery	23	35	24	24	24	55,409
Geriatric Medicine	18	24	24	23	23	16,098
Gynaecological Oncology	23	36	34	28	28	1,830
Gynaecology	18	24	23	20	20	32,299
Haemophilia Service	-	-	12	-	-	[✂]
Hepatobiliary & Pancreatic Surgery	28	41	28	44	24	519
Hepatology	24	11	18	23	16	1,372
Interventional Radiology	-	39	29	29	43	199
Learning Disability	-	-	-	-	-	-
Maxillo-Facial Surgery	23	30	23	30	28	41,360
Medical Oncology	31	36	37	30	30	30,574
Medical Ophthalmology	20	-	-	-	-	3,048
Midwifery Service	30	24	17	17	18	189

Neonatology	-	20	24	19	20	2,234
Nephrology	24	-	-	-	-	[✂]
Neurology	23	29	24	24	17	7,177
Obstetrics	18	20	18	18	24	22,109
Occupational Therapy	-	-	-	-	-	-
Ophthalmology	20	24	23	29	29	32,471
Optometry	18		-	-	-	691
Oral Surgery	24	24	24	31	25	11,996
Orthodontics	21	32	21	18	-	2,562
Orthoptics	18	-	-	-	-	2,271
Paediatric Cardiology	18	-	-	-	-	551
Paediatric Clinical Immunology and Allergy Service	18	-	4	-	-	107
Paediatric Diabetic Medicine	18	-	-	-	-	[✂]
Paediatric Endocrinology	24	-	-	-	-	317
Paediatric Medical Oncology	-	15	18	-	-	52
Paediatric Nephrology	21	-	-	-	-	143
Paediatric Neuro-Disability	18	-	-	-	-	923
Paediatric Neurology	23	-	-	11	-	[✂]
Paediatric Ophthalmology	-	-	-	-	-	-
Paediatric Respiratory Medicine	24	-	-	24	-	115
Paediatric Rheumatology	23	-	-	-	-	70
Paediatric Surgery	19	41	19	18	-	715
Paediatric Trauma and Orthopaedics	17	-	-	-	-	[✂]
Paediatrics	18	19	20	23	20	19,482
Pain Management	23	24	24	-	35	6,567
Palliative Medicine	24	-	-	18	-	[✂]
Physiotherapy	-	-	-	-	-	-
Plastic Surgery	20	17	-	38	-	2,359
Rehabilitation Service	-	-	-	30	-	[✂]
Respiratory Medicine	21	18	20	23	24	9,492
Respiratory Physiology	24	-	-	-	-	1,421
Rheumatology	23	24	18	23	23	11,286
Transient Ischaemic Attack	23	-	-	-	-	645
Trauma & Orthopaedics	23	23	23	24	24	51,218
Upper Gastrointestinal Surgery	6	28	26	41	2	80
Urology	18	30	23	23	24	29,340
Vascular Surgery	18	12	18	12	35	1,687
Well Babies	-	18	18	18	4	7,313
Average across specialties	**22**	**24**	**24**	**24**	**23**	**538,143**

Source: HES data, CMA analysis.

Table 9: Drive-time within which SPH draws 80% of its patients, by specialty and setting

					minutes	
		Elective		*Non-elective*		
Specialty	*Outpatient*	*Inpatient*	*Day-case*	*Inpatient*	*Day-case*	*Total number of patients*
Accident & Emergency	14	16	16	14	14	11,358
Adult Mental Illness	-	-	-	13	16	[✂]
Anaesthetics	15	-	-	21	-	96
Anticoagulant Service	14	-	-	-	-	1,549
Audiology/Audiological Medicine	15	-	-	-	-	9,402
Breast Surgery	14	14	15	16	14	4,124
Cardiac Rehabilitation	13	-	-	-	-	51
Cardiology	15	19	18	16	19	23,000
Cardiothoracic Surgery	13	-	-	-	-	[✂]
Chemical Pathology	-	-	10	-	-	[✂]
Clinical Haematology	14	15	15	15	14	14,743
Clinical Oncology (Previously Radiotherapy)	-	14	14	16	-	333
Clinical Psychology	30	-	-	-	-	11
Colorectal Surgery	14	15	14	15	14	13,063
Critical Care Medicine	-	15	14	15	16	159
Dermatology	14	-	16	16	14	16,195
Diabetic Medicine	15	-	-	13	-	1,600
Dietetics	13	-	-	-	-	2,741
ENT	15	14	14	13	16	14,102
Endocrinology	15	16	16	16	18	1,978
Gastroenterology	15	14	14	14	15	22,425
General Medicine	14	15	15	14	14	39,058
General Surgery	15	15	14	14	15	27,326
Geriatric Medicine	13	13	14	14	14	2,815

Gynaecological Oncology	-	-	16	8	-	[✂]
Gynaecology	15	15	15	14	15	25,078
Learning Disability	-	-	13	-	-	[✂]
Maxillo-Facial Surgery	15	15	16	16	11	17,573
Medical Oncology	14	12	13	13	-	599
Medical Ophthalmology	-	-	-	-	-	-
Midwifery Service	14	14	14	20	18	40,188
Neonatology	-	15	16	25	15	2,875
Nephrology	16	-	9	5	-	85
Neurology	15	-	14	16	-	5,207
Obstetrics	14	14	14	36	13	27,550
Occupational Therapy	13	-	-	-	-	324
Ophthalmology	15	14	16	16	14	27,518
Oral Surgery	-	-	20	-	-	690
Orthodontics	20	-	-	-	-	490
Orthoptics	16	-	-	7	-	202
Paediatric Cardiology	14	-	-	-	-	78
Paediatric Clinical Haematology	12	-	-	-	-	[✂]
Paediatric Clinical Immunology and Allergy Service	14	-	-	-	-	360
Paediatric Diabetic Medicine	16	-	-	-	-	[✂]
Paediatric Endocrinology	15	-	-	-	-	87
Paediatric Ophthalmology	16	-	-	-	-	811
Paediatric Respiratory Medicine	14	-	-	-	-	19
Paediatric Rheumatology	-	-	-	-	-	-
Paediatric Surgery	15	-	-	-	-	115
Paediatric Trauma and Orthopaedics	15	-	-	-	-	587
Paediatric Urology	13	-	-	-	-	97
Paediatrics	14	14	13	14	14	28,064
Pain Management	16	14	14	4	-	5,062
Physiotherapy	11	-	-	-	-	5,201
Rehabilitation Service	-	-	-	14	10	[✂]
Respiratory Medicine	15	15	15	14	14	7,061
Rheumatology	14	16	16	15	14	6,404
Speech and Language Therapy	13	-	-	-	-	37
Transient Ischaemic Attack	7	-	-	-	-	[✂]
Trauma & Orthopaedics	14	16	16	15	15	47,104
Upper Gastrointestinal Surgery	14	21	16	14	16	5,332
Urology	15	16	15	14	14	14,676
Vascular Surgery	15	18	16	18	19	6,757
Well Babies	-	14	14	14	14	13,334
Average across specialties	**15**	**15**	**15**	**14**	**14**	**495,724**

Source: HES data, CMA analysis.

Table 10: Drive-time within which AH draws 80% of its patients, by specialty and conditions of provision

					minutes	
		Elective		*Non-elective*		*Total number of patients*
Specialty	*Outpatient*	*Inpatient*	*Day- case*	*Inpatient*	*Day-case*	
Accident & Emergency	-	-	20	-	-	436
Anaesthetics	16	-	-	-	-	67
Audiology/Audiological Medicine	13	-	-	-	-	9,254
Breast Surgery	17	21	21	-	-	10,157
Cardiac Rehabilitation	13	-	-	-	-	23
Cardiology	14	15	21	-	-	6,720
Clinical Haematology	13	-	-	-	-	911
Clinical Oncology (Previously Radiotherapy)	5	-	13	-	-	447
Colorectal Surgery	16	-	17	22	-	3,851
Dermatology	17	-	-	-	-	9,898
Diabetic Medicine	11	-	-	-	-	602
Dietetics	11	-	-	-	-	1,792
ENT	14	11	18	-	-	9,012
Endocrinology	17	-	23	-	-	2,032
Gastroenterology	13	11	14	21	-	5,695
General Medicine	20	21	21	21	25	1,478
General Surgery	21	21	20	16	5	5,476
Geriatric Medicine	17	-	-	20	-	1,251
Gynaecology	17	21	22	-	-	8,037
Maxillo-Facial Surgery	15	13	20	14	-	9,654
Midwifery Service	11	-	-	-	-	2,079
Nephrology	12	-	-	-	-	425
Neurology	16	-	-	-	-	3,223
Obstetrics	-	15	-	-	-	[✂]
Occupational Therapy	13	-	-	-	-	616
Ophthalmology	15	17	18	18	23	28,599
Oral Surgery	-	20	21	11	-	1,332
Orthodontics	17	-	-	-	-	1,587
Orthoptics	15	-	-	-	-	1,160
Paediatric Ophthalmology	17	-	-	-	-	3,131
Paediatrics	13	-	-	-	-	2,776
Pain Management	14	20	18	-	-	5,985
Physiotherapy	11	-	-	-	-	7,713
Rehabilitation Service	-	11	-	21	-	544
Respiratory Medicine	15	-	-	-	-	2,046
Rheumatology	13	-	-	-	-	3,921
Speech and Language Therapy	22	-	-	-	-	62
Trauma & Orthopaedics	14	21	21	22	-	27,566
Upper Gastrointestinal Surgery	16	15	20	22	-	1,246
Urology	14	22	21	21	-	13,108
Vascular Surgery	13	37	21	-	-	2,863
Average across specialties	**14**	**21**	**20**	**21**	**24**	**196,776**

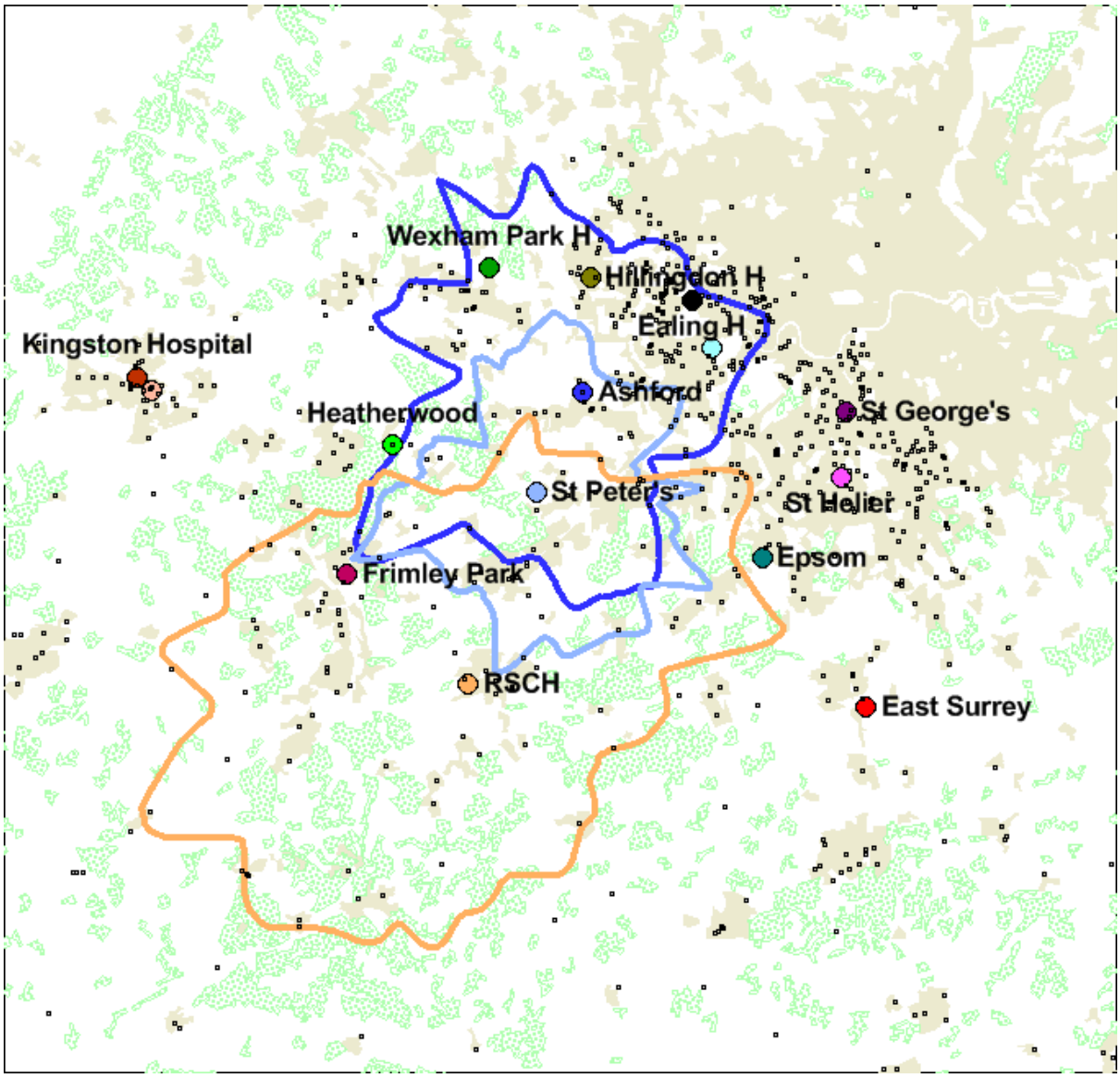
Source: HES data, CMA analysis.

28. Tables 8, 9 and 10 show that there was relatively little variation in the drive-time associated with the 80% catchment areas across the majority of specialties at SPH, whilst there was some variation at RSCH and at AH.

Mapping of catchment areas

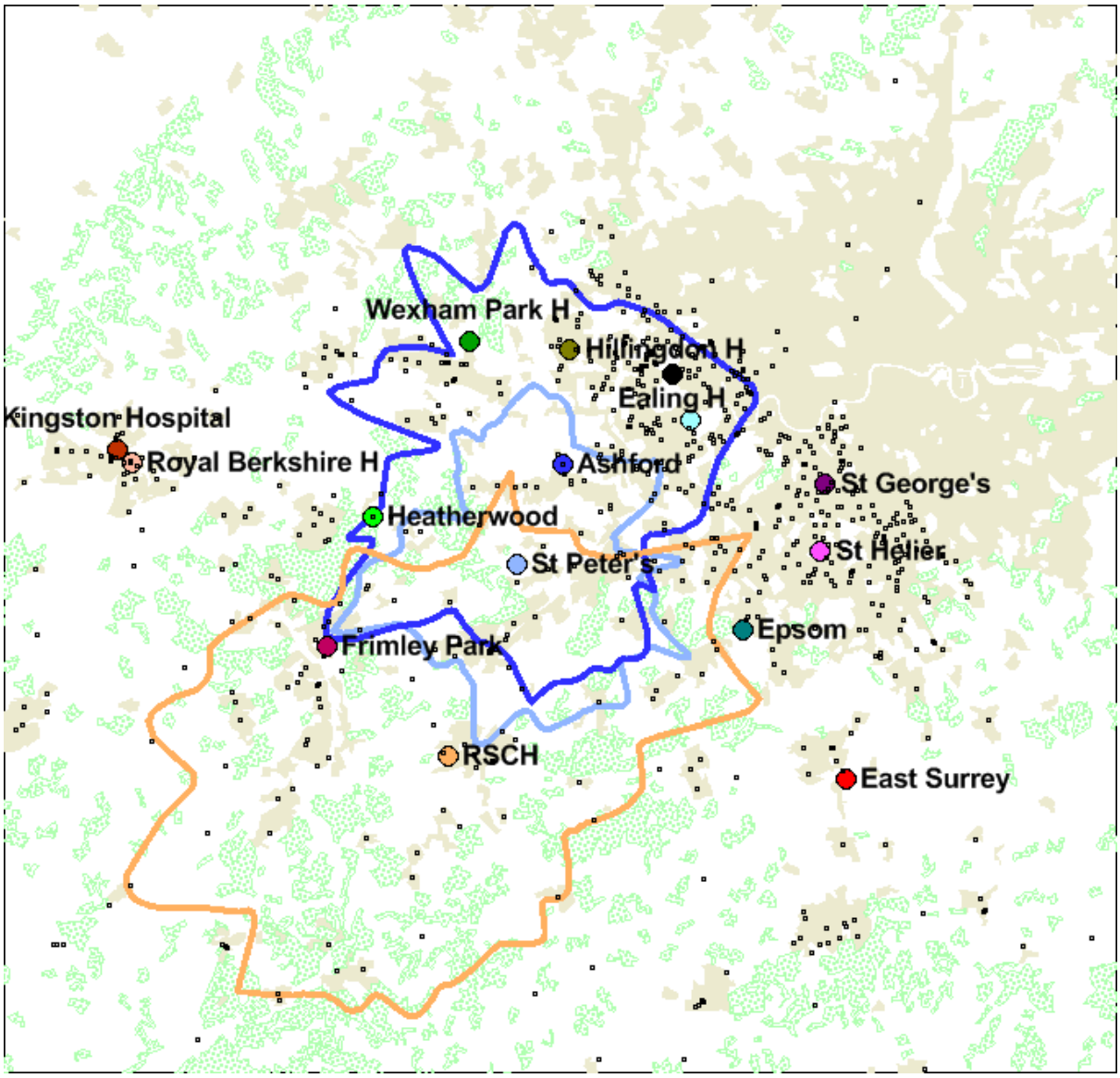
29. Figures 3 to 5 show the 80% catchment areas of RSCH, SPH and AH for elective outpatient, elective inpatient and elective day-cases. The GP practices at which those patients who attended these hospitals were registered are shown in the maps as small black dots.

Figure 3: Catchment areas based on 80% threshold: elective day-case



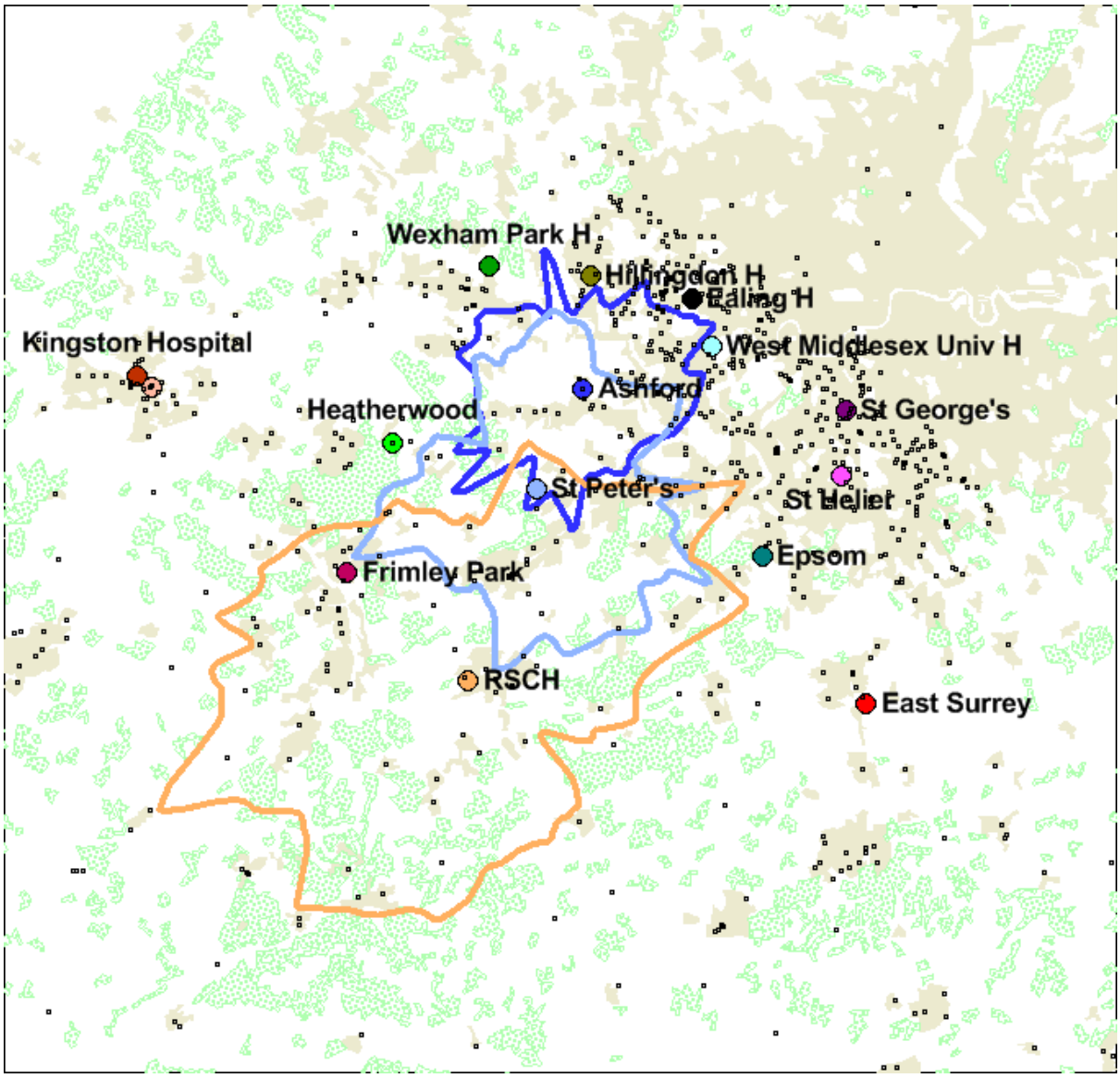
Source: CMA analysis.

Figure 4: Catchment areas based on 80% threshold: elective inpatient



Source: CMA analysis.

Figure 5: Catchment areas based on 80% threshold: elective outpatient



Source: CMA analysis.

30. Figures 3 to 5 show that the catchment area of RSCH overlapped with the southern half of the catchment area of SPH, across each of the three categories of elective services. RSCH's catchment area also overlapped with much of AH's catchment area in relation to elective inpatient and to elective day-case services, whereas the overlap was relatively small in relation to elective outpatient services.

GP practices in overlapping catchment areas

31. We have examined the number of GP practices that were located in the overlap of the catchment areas of RSCH, AH and SPH and of nearby hospitals. We considered this for elective services. The results are shown in Tables 11 to 13.

32. Tables 11 to 13 show, for each of the Parties' main hospitals, the number of GP practices, and number of patients referred from these practices that were in the overlap of that hospital's 80% catchment areas and the 80% catchment area of other hospitals in the area.[6] Table 11, for example, shows that, in relation to elective day-case patients, there were 105 GP practices within the 80% catchment area of RSCH. Of these 105 practices, 27 were also within the catchment area of SPH, and 15 were within the overlap of the catchment area of RSCH and AH. The table shows that there were 30 practices where RSCH and Frimley Park Hospital's catchment area overlaps, and 26 where the overlap was with Heatherwood Hospital's catchment area.

Table 11: Number of GP practices and patients within overlap of catchment areas: elective day-case

	RSCH		*SPH*		*AH*	
	GP practices	*Patients*	*GP practices*	*Patients*	*GP practices*	*Patients*
RSCH	105	375,352	27	97,023	15	55,219
SPH	27	97,023	50	169,589	32	113,960
AH	15	55,219	32	113,960	165	347,713
East Surrey Hospital	0	-	0	-	0	-
Heatherwood Hospital	26	139,317	14	55,783	24	100,887
Frimley Park Hospital	30	143,515	6	20,203	5	20,192
St George's Hospital (Tooting)	3	4,472	0	-	0	-
St Helier Hospital	0	-	0	-	0	-
Epsom Hospital	17	33,790	0	-	0	-
West Middlesex Univ	0	-	4	5,955	70	98,506
Hillingdon Hospital	0	-	0	-	48	71,271
Ealing Hospital	0	-	0	-	36	46,205
Wexham Park Hospital	0	-	0	-	0	-
Charing Cross Hospital	2	2,615	4	5,955	104	150,597
Kingston Hospital	11	20,672	0	-	9	23,406
Royal Berkshire Hospital	2	13,344	1	2,870	9	38,245

Source: HES data, CMA analysis.

[6] For this analysis we considered the set of hospitals listed by the Parties in Table 3 of their Response to Working Papers and Final submission, as well as St George's Hospital and East Surrey Hospital.

Table 12: Number of GP practices and patients within overlap of catchment areas: elective inpatients

	RSCH		*SPH*		*AH*	
	GP practices	*Patients*	*GP practices*	*Patients*	*GP practices*	*Patients*
RSCH	94	128,540	26	38,016	21	27,695
SPH	26	38,016	50	64,861	32	42,791
AH	21	27,695	32	42,791	113	117,578
East Surrey Hospital	0	-	0	-	0	-
Heatherwood Hospital	23	41,416	14	19,164	22	29,340
Frimley Park Hospital	30	48,191	5	5,861	9	10,792
St George's Hospital (Tooting)	6	3,971	0	-	0	-
St Helier Hospital	0	-	0	-	0	-
Epsom Hospital	9	5,595	0	-	0	-
West Middlesex Univ	0	-	4	2,847	42	35,191
Hillingdon Hospital	0	-	0	-	22	19,690
Ealing Hospital	0	-	0	-	18	14,823
Wexham Park Hospital	0	-	0	-	0	-
Charing Cross Hospital	2	1,608	5	3,604	68	60,437
Kingston Hospital	6	3,971	0	-	8	10,172
Royal Berkshire Hospital	0	-	0	-	0	-

Source: HES data, CMA analysis.

Table 13: Number of GP practices and patients within overlap of catchment areas: elective outpatients

	RSCH		*SPH*		*AH*	
	GP practices	*Patients*	*GP practices*	*Patients*	*GP practices*	*Patients*
RSCH	72	586,730	22	192,048	2	24,836
SPH	22	192,048	52	414,538	23	204,985
AH	2	24,836	23	204,985	80	454,163
East Surrey Hospital	0	-	0	-	0	-
Heatherwood Hospital	16	165,259	9	76,279	4	33,152
Frimley Park Hospital	26	236,312	5	36,878	0	-
St George's Hospital (Tooting)	0	-	0	-	0	-
St Helier Hospital	0	-	0	-	0	-
Epsom Hospital	0	-	0	-	0	-
West Middlesex Univ	0	-	4	15,582	31	132,871
Hillingdon Hospital	0	-	0	-	18	89,446
Ealing Hospital	0	-	0	-	12	56,628
Wexham Park Hospital	0	-	0	-	6	38,560
Charing Cross Hospital	0	-	0	-	20	102,068
Kingston Hospital	0	-	0	-	1	10,097
Royal Berkshire Hospital	0	-	0	-	0	-

Source: HES data, CMA analysis.

33. Table 14 shows the number of GP practices that were within the overlap of the catchment areas of RSCH and either SPH or AH, and of the catchment area of one or more, two or more or three or more other hospitals. The table shows that, in relation to elective day-cases for example, there were 33 GP practices that were in the overlap of the catchment areas of the Parties'. Of these, eight were also in the catchment area of one or more other hospital sites, and three were in the catchment areas of two or more other hospitals. Only one of those 33 practices was also within the catchment area of three or more other hospitals.

34. Table 14 shows that of the GP practices that were within the overlap of the catchment areas of the Parties' hospitals a small share, no greater than a

third, were also within the catchment area of one or more other hospitals. The share was particularly small for elective outpatient services in relation to which, of the 22 practices that were within the overlap of the Parties' catchment areas, only two were also within the catchment area of two or more other hospitals, and none were within the catchment area of three or more other hospitals. For elective day-cases and elective inpatients, slightly more than a quarter of the GP practices that were in the overlap of the Parties' catchment areas were also within the catchment area of one other hospital. Of these, only one in the case of day-cases and none in the case of outpatients were also within the catchment area of three or more other hospitals. Table 14 shows a similar pattern where we considered the overlaps in terms of the number of patients rather than of number of GP practices.

Table 14: Number of GP practices and patients within overlap of catchment areas of Parties' hospitals and of other hospitals

	Overlap of Parties' hospitals' catchment areas	*Overlap of Parties' and of other hospitals' catchment areas*		
		GP practices (number of patients)		
	GP practices (number of patients)	*Parties plus one or more*	*Parties plus two or more*	*Parties plus three or more*
Elective day-case	33 (110.848)	8 (34,854)	3 (14,615)	1 (2,870)
Elective inpatient	36 (49,758)	10 (16,416)	6 (8,816)	0 (0)
Elective outpatient	22 (192,048)	2 (26,351)	2 (26,351)	0 (0)

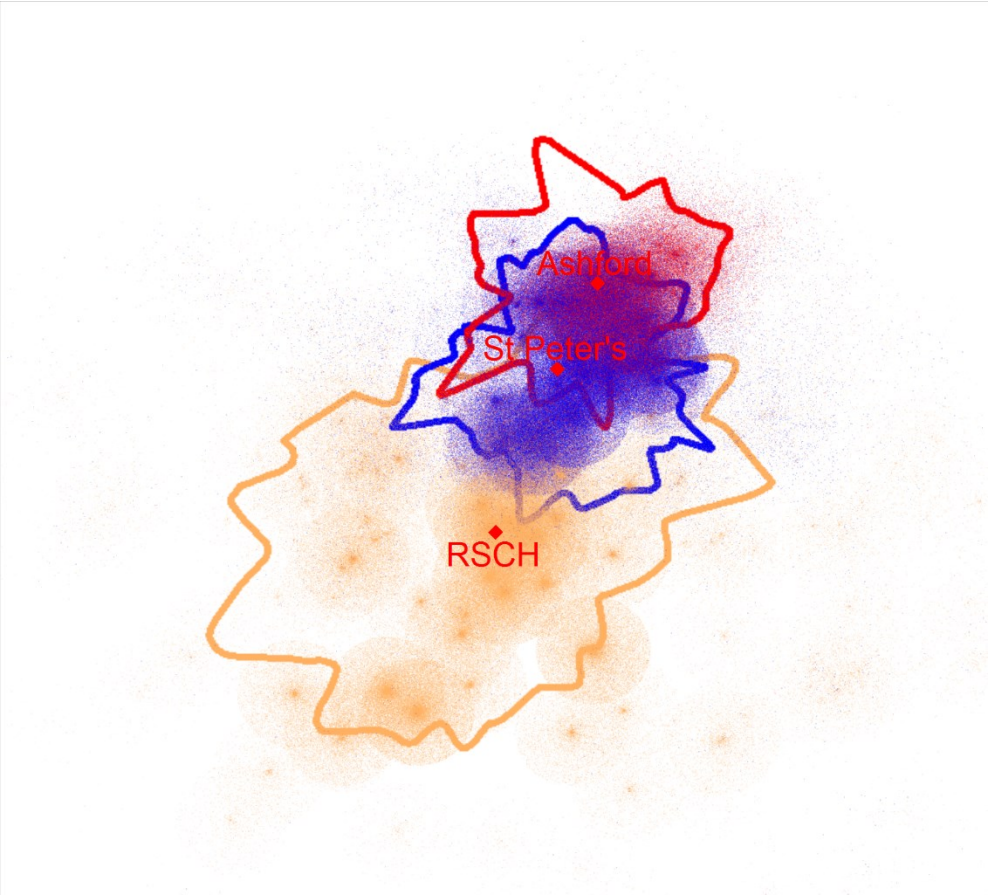
Source: HES data, CMA analysis.

Distribution of patients

35. We examined the distribution of the locations of the patients who attended RSCH, SPH or AH, and compared this with the catchment areas identified for each of these hospitals.

36. For the purpose of visualising the distribution of patients' locations, for each patient, we took the location of the GP practice with which he or she was registered, and assumed that the location of each patient was a random location within a 5 kilometre radius of the location of the practice confirmed. Figure 6 shows the distribution of the location of the patients who attended RSCH, SPH and AH for elective services, as well as the 80% catchment area for elective services which we identified for each of these hospitals.

Figure 6: Location of elective patients at RSCH, SPH and AH and at other hospitals



Source: HES data, CMA analysis.
Note: Orange = RSCH patients; Blue = SPH patients; Red = AH patients.

Split of GP referrals

37. We also considered the Parties' shares of referrals at GP practice level.

38. Table 15 shows the average share of elective referrals from GP practices within the hospitals' respective catchment areas (based on 80% threshold). These differed considerably among the three hospitals. AH accounted for a relatively small share of the referrals from GP practices in its catchment area: 4% in relation to inpatient referrals; 9% in relation to day-cases; and 21% in relation to outpatients. RSCH accounted for around 30% of elective referrals from GP practices within that hospitals' 80% catchment area. SPH had a greater presence within its own catchment area; it accounted for 39% of referrals for day-cases, 45% of outpatient referrals and 50% of inpatient referrals from the GP practices that were located within its 80% catchment area.

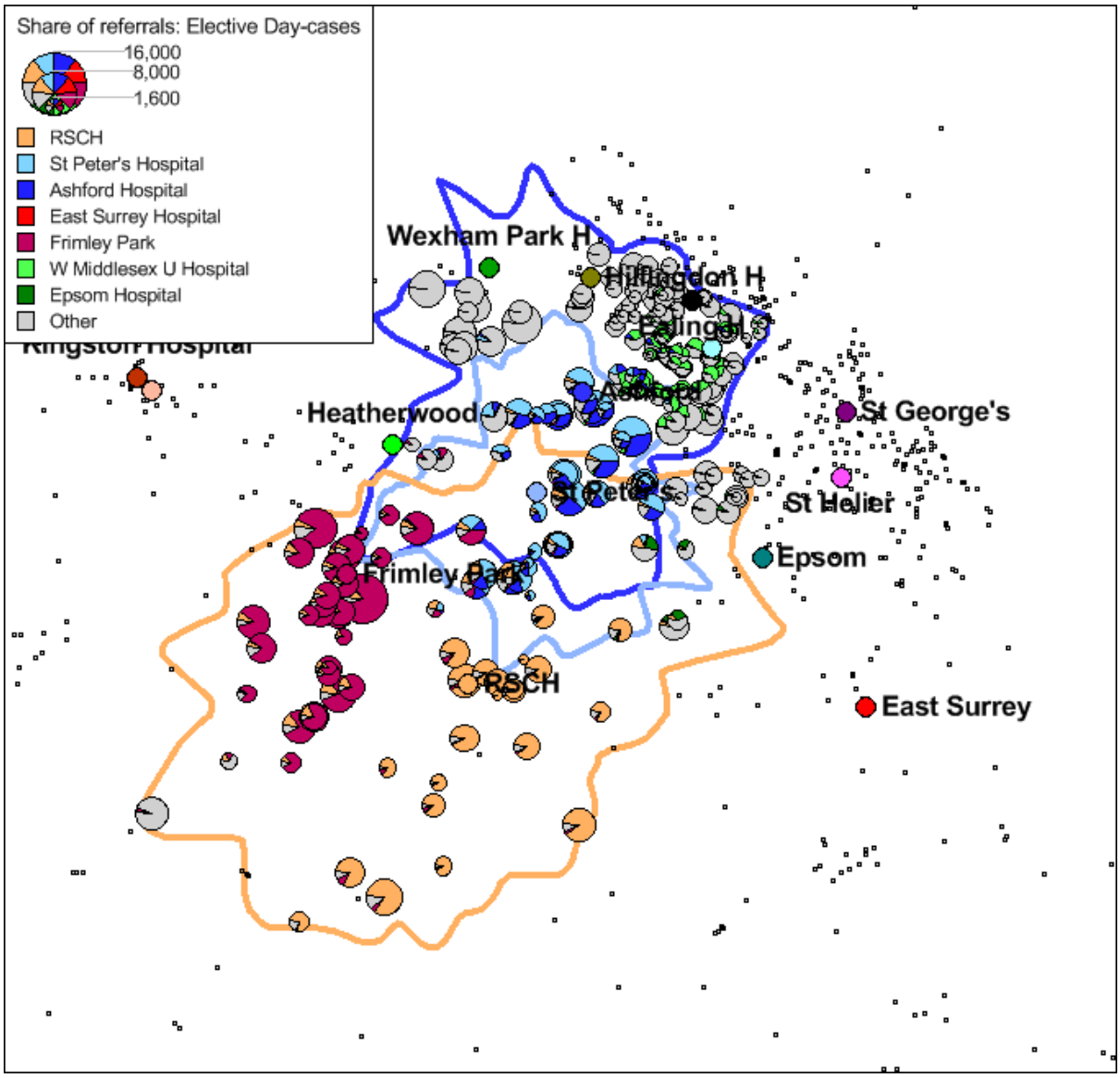
Table 15: Average share of referrals from GP practices within catchment area

			%
	RSCH	*SPH*	*AH*
Elective day-case	28	39	9
Elective inpatient	27	50	4
Elective outpatient	33	45	21

Source: HES data, CMA analysis

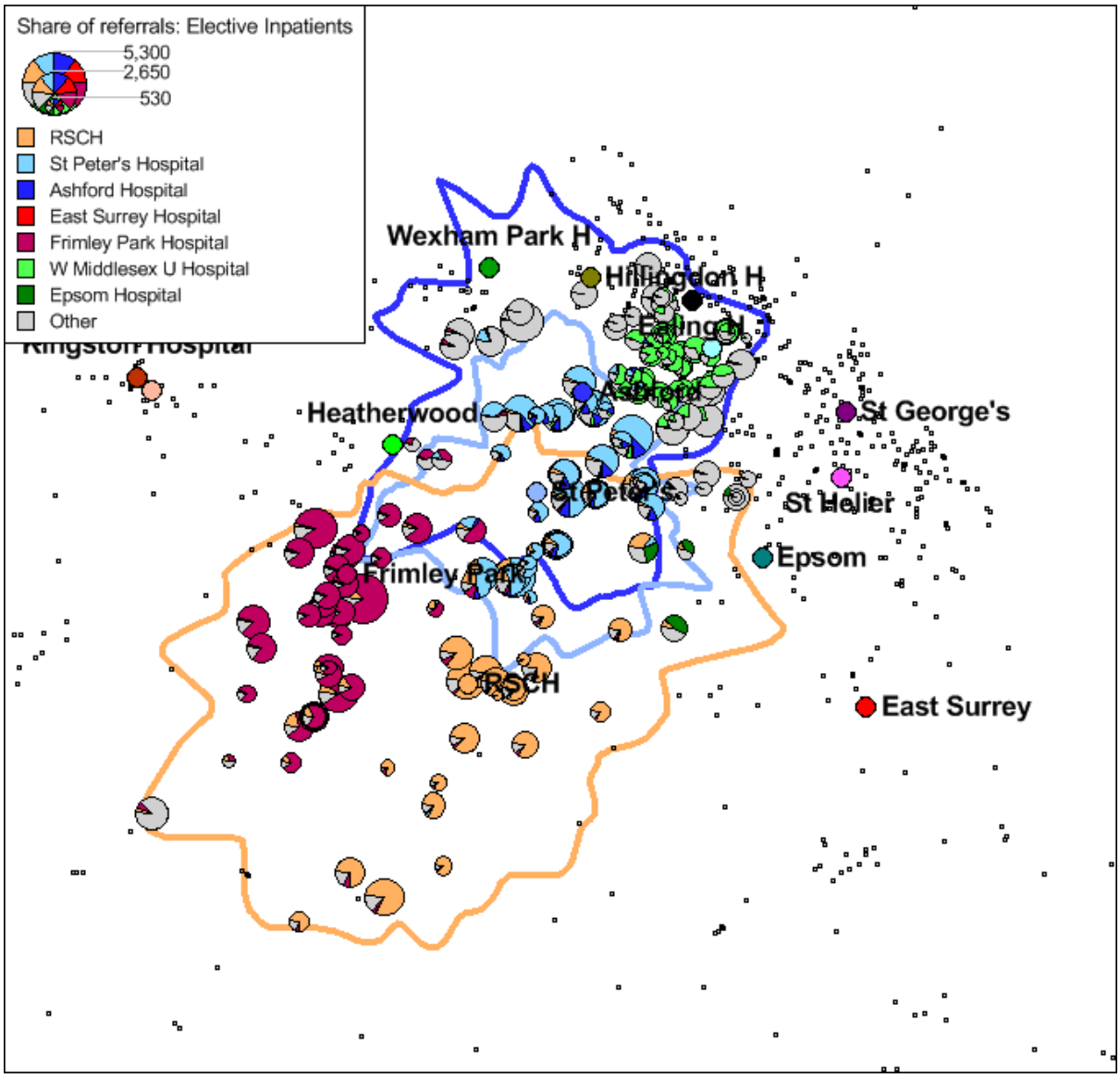
39. Figures 7 to 9 map the referrals of patients for elective services distributed across RSCH, SPH, AH and other nearby hospitals, for GP practices within the 80% catchment areas of the Parties' sites.

Figure 7: Share of referrals: Elective Day cases



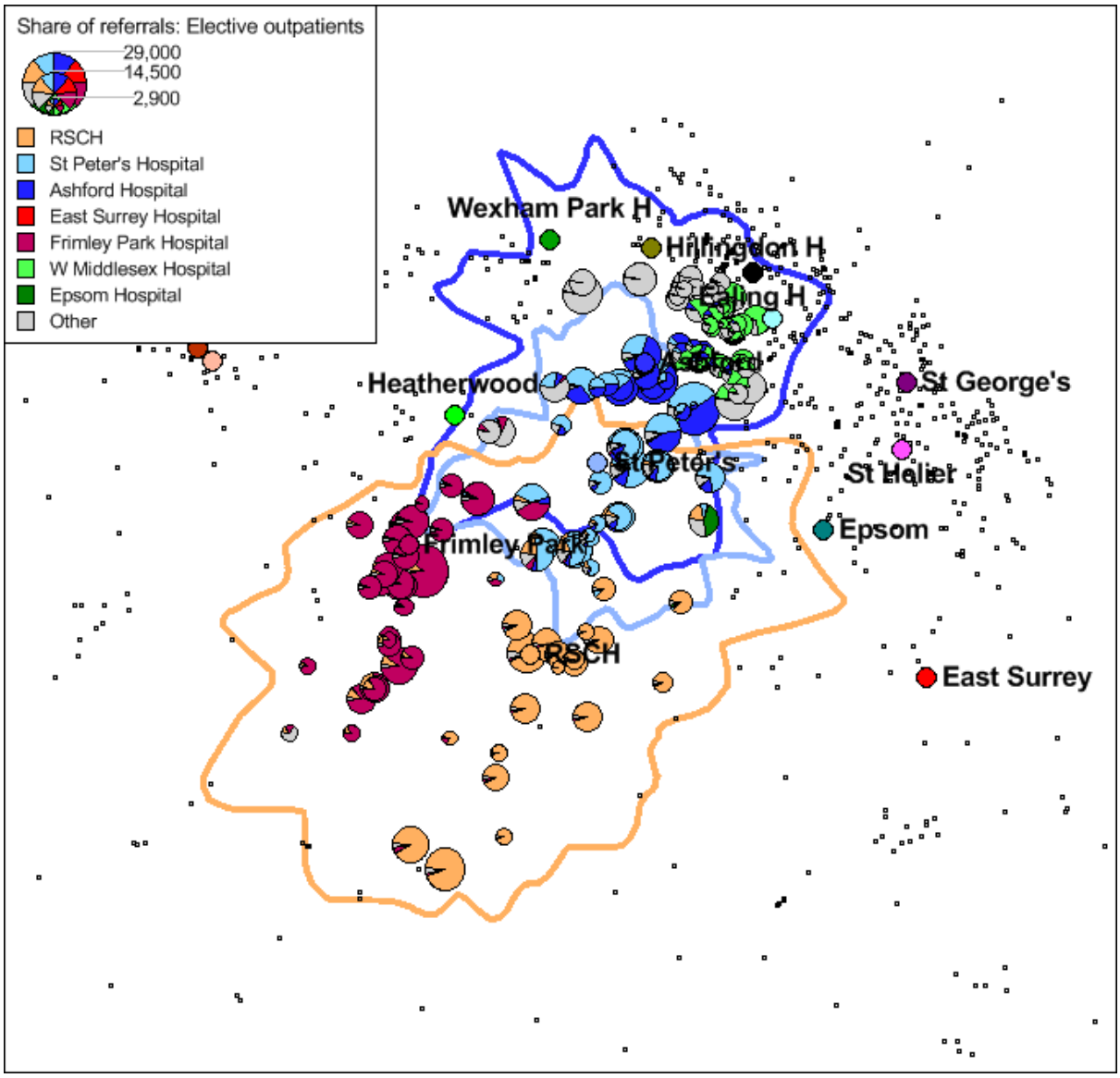
Source: HES data, CMA analysis.

Figure 8: Share of referrals: elective inpatients



Source: HES data, CMA analysis.

Figure 9: Share of referral: elective outpatient

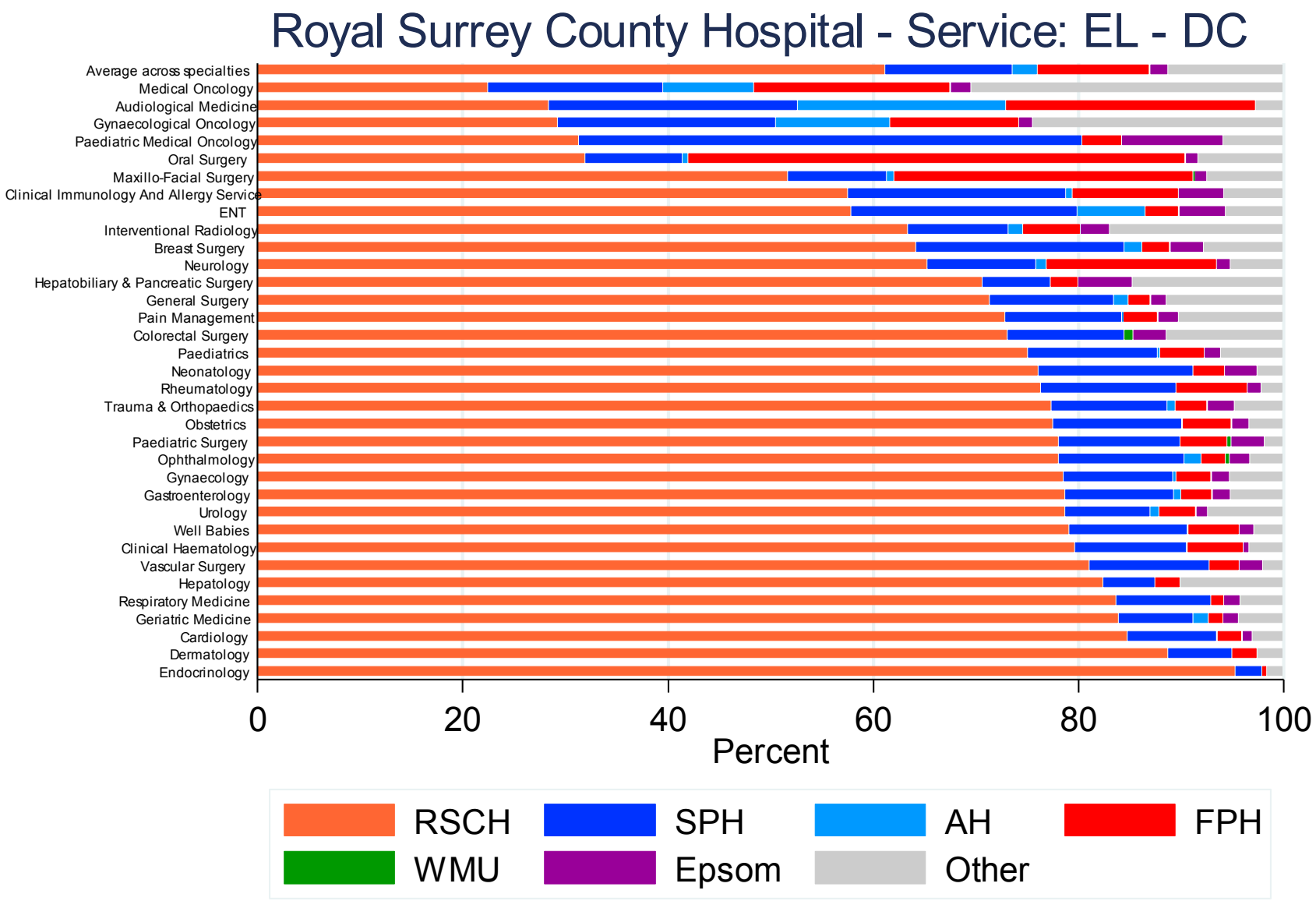


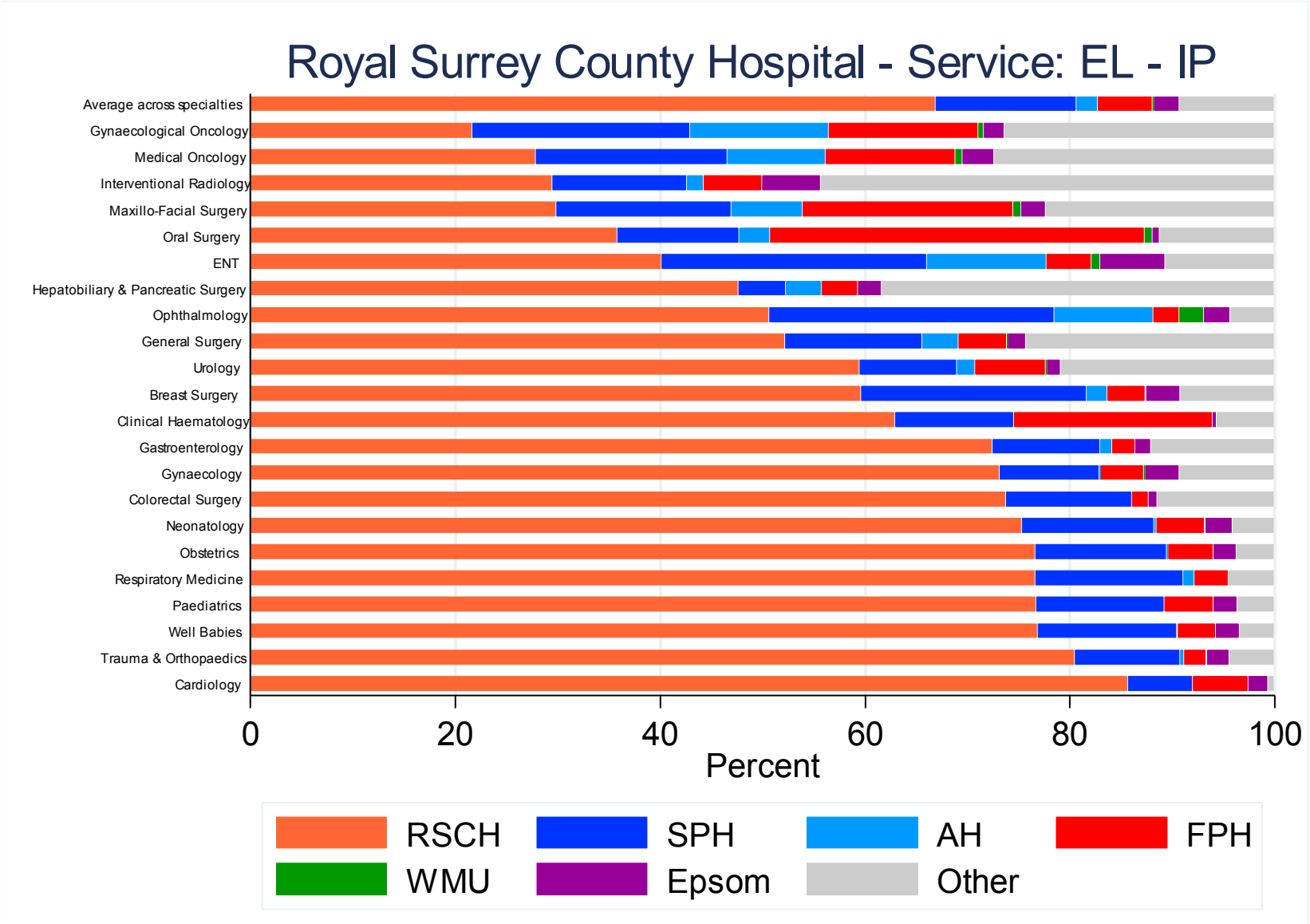
Source: HES data, CMA analysis.

Analysis of hospital site nearest patients

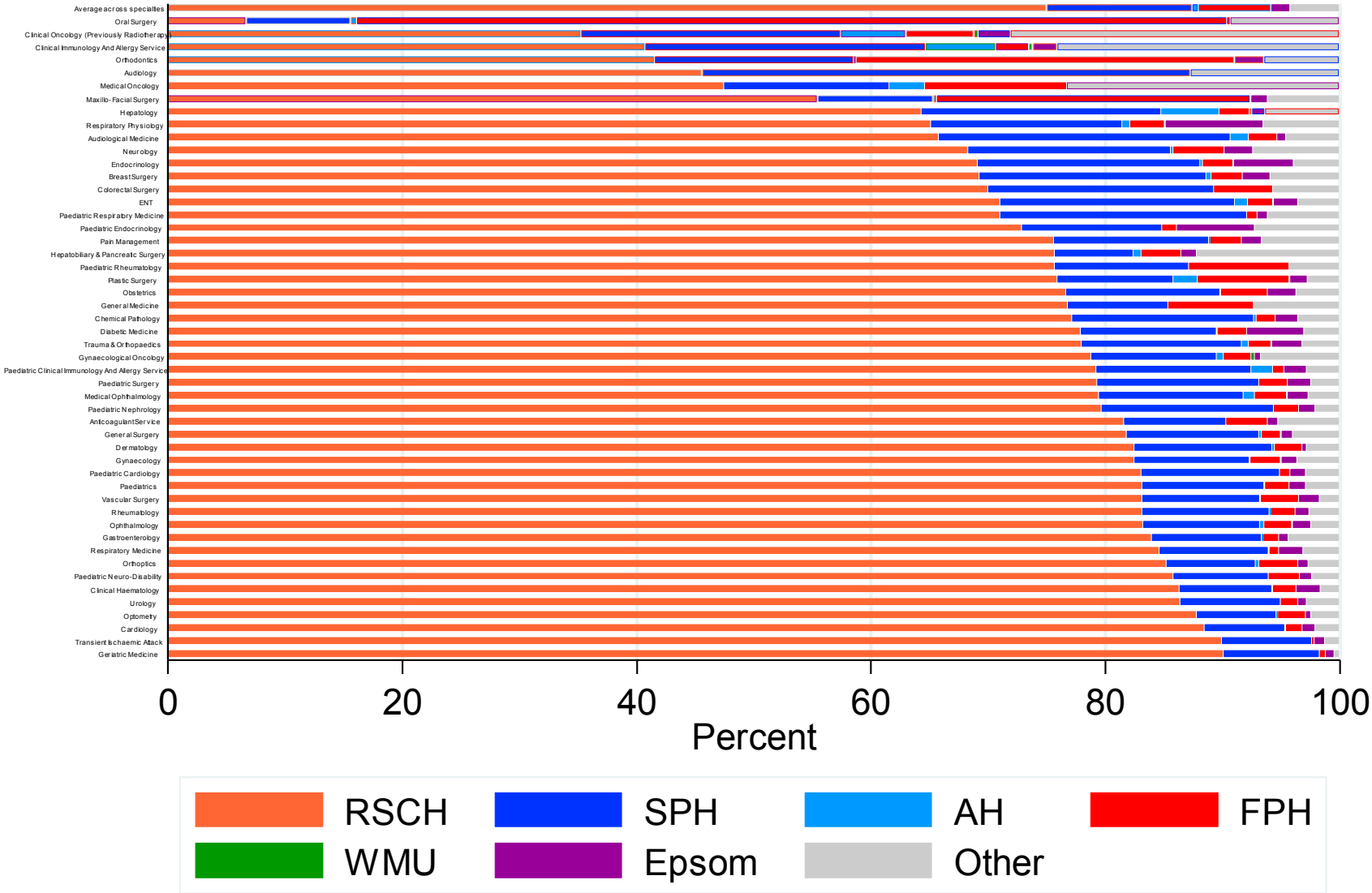
1. The charts below show the breakdown of the patients attending SPH, AH and RSCH in relation to the hospital site that was nearest to them. Separate charts are shown for each of the following services: elective outpatient, elective inpatient and elective day-case.

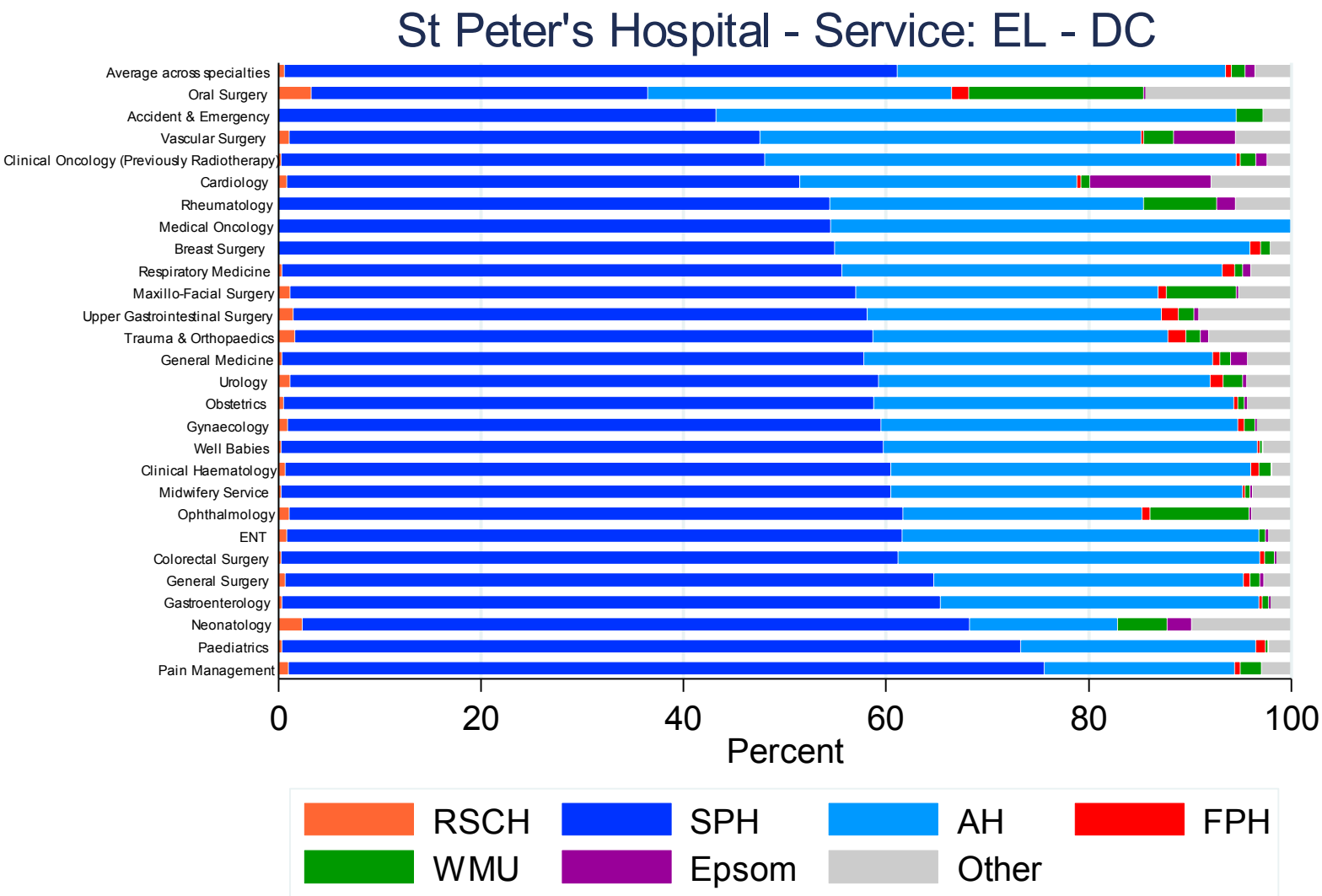
2. For each hospital and service, the charts show the breakdown by specialty. Each chart also shows the average breakdown across specialties. This is the breakdown shown in the top-most bar, and it reflects the figures shown in Tables 1 to 5 in the main body of this appendix.

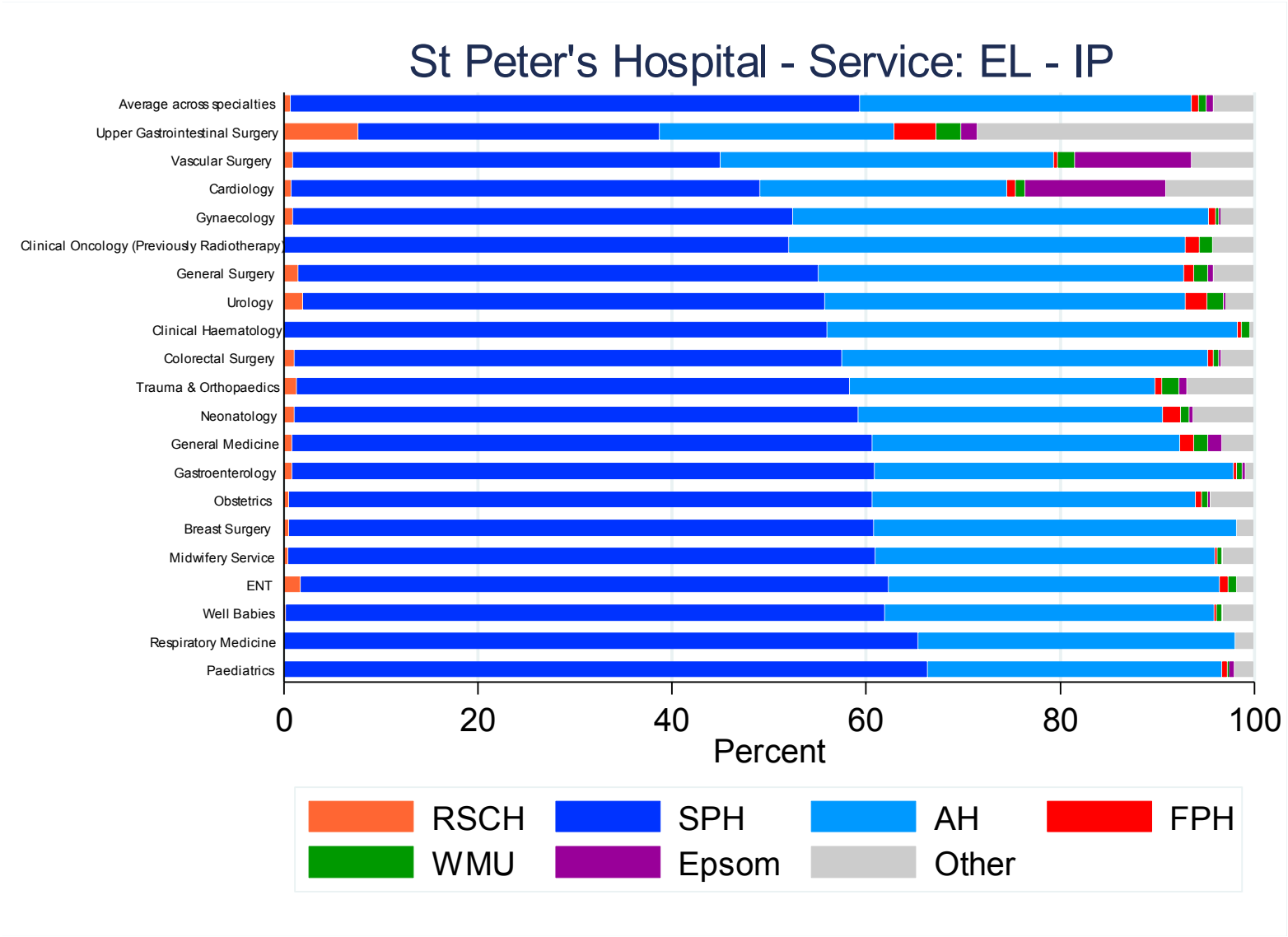

Royal Surrey County Hospital - Service: EL - DC
Average across specialties
Medical Oncology
Audiological Medicine
Gynaecological Oncology
Paediatric Medical Oncology
Oral Surgery
Maxillo-Facial Surgery
Clinical Immunology And Allergy Service
ENT
Interventional Radiology
Breast Surgery
Neurology
Hepatobiliary & Pancreatic Surgery
General Surgery
Pain Management
Colorectal Surgery
Paediatrics
Neonatology
Rheumatology
Trauma & Orthopaedics
Obstetrics
Paediatric Surgery
Ophthalmology
Gynaecology
Gastroenterology
Urology
Well Babies
Clinical Haematology
Vascular Surgery
Hepatology
Respiratory Medicine
Geriatric Medicine
Cardiology
Dermatology
Endocrinology
0
20
40
60
80
100
Percent
RSCH
SPH
AH
FPH
WMU
Epsom
Other


Royal Surrey County Hospital - Service: EL - IP
Average across specialties
Gynaecological Oncology
Medical Oncology
Interventional Radiology
Maxillo-Facial Surgery
Oral Surgery
ENT
Hepatobiliary & Pancreatic Surgery
Ophthalmology
General Surgery
Urology
Breast Surgery
Clinical Haematology
Gastroenterology
Gynaecology
Colorectal Surgery
Neonatology
Obstetrics
Respiratory Medicine
Paediatrics
Well Babies
Trauma & Orthopaedics
Cardiology
0
20
40
60
80
100
Percent
RSCH
SPH
AH
FPH
WMU
Epsom
Other

Royal Surrey County Hospital - Service: EL - OP




St Peter's Hospital - Service: EL - DC
Average across specialties
Oral Surgery
Accident & Emergency
Vascular Surgery
Clinical Oncology (Previously Radiotherapy)
Cardiology
Rheumatology
Medical Oncology
Breast Surgery
Respiratory Medicine
Maxillo-Facial Surgery
Upper Gastrointestinal Surgery
Trauma & Orthopaedics
General Medicine
Urology
Obstetrics
Gynaecology
Well Babies
Clinical Haematology
Midwifery Service
Ophthalmology
ENT
Colorectal Surgery
General Surgery
Gastroenterology
Neonatology
Paediatrics
Pain Management
0
20
40
60
80
100
Percent
RSCH
SPH
AH
FPH
WMU
Epsom
Other


St Peter's Hospital - Service: EL - IP
Average across specialties
Upper Gastrointestinal Surgery
Vascular Surgery
Cardiology
Gynaecology
Clinical Oncology (Previously Radiotherapy)
General Surgery
Urology
Clinical Haematology
Colorectal Surgery
Trauma & Orthopaedics
Neonatology
General Medicine
Gastroenterology
Obstetrics
Breast Surgery
Midwifery Service
ENT
Well Babies
Respiratory Medicine
Paediatrics
0
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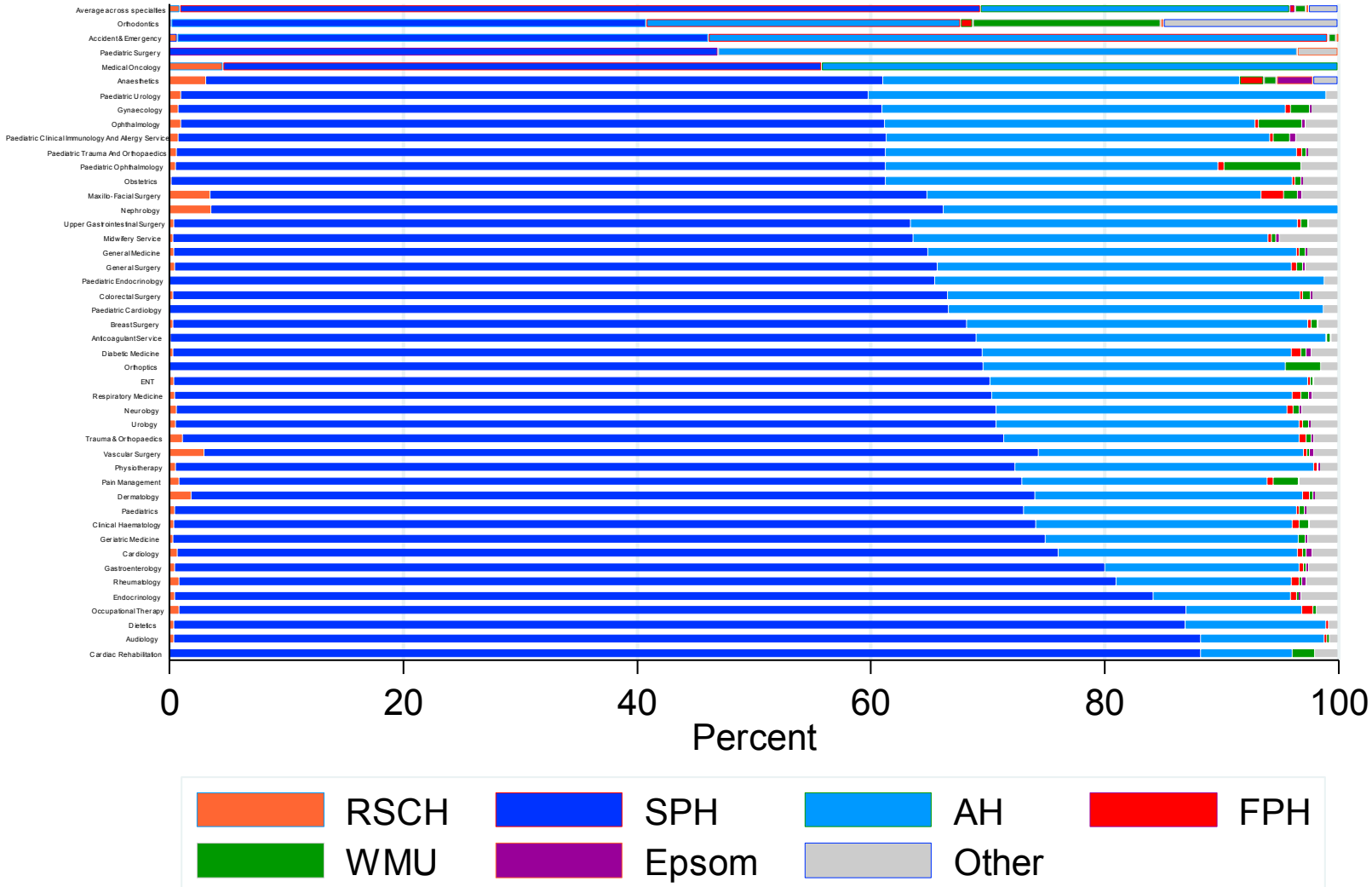
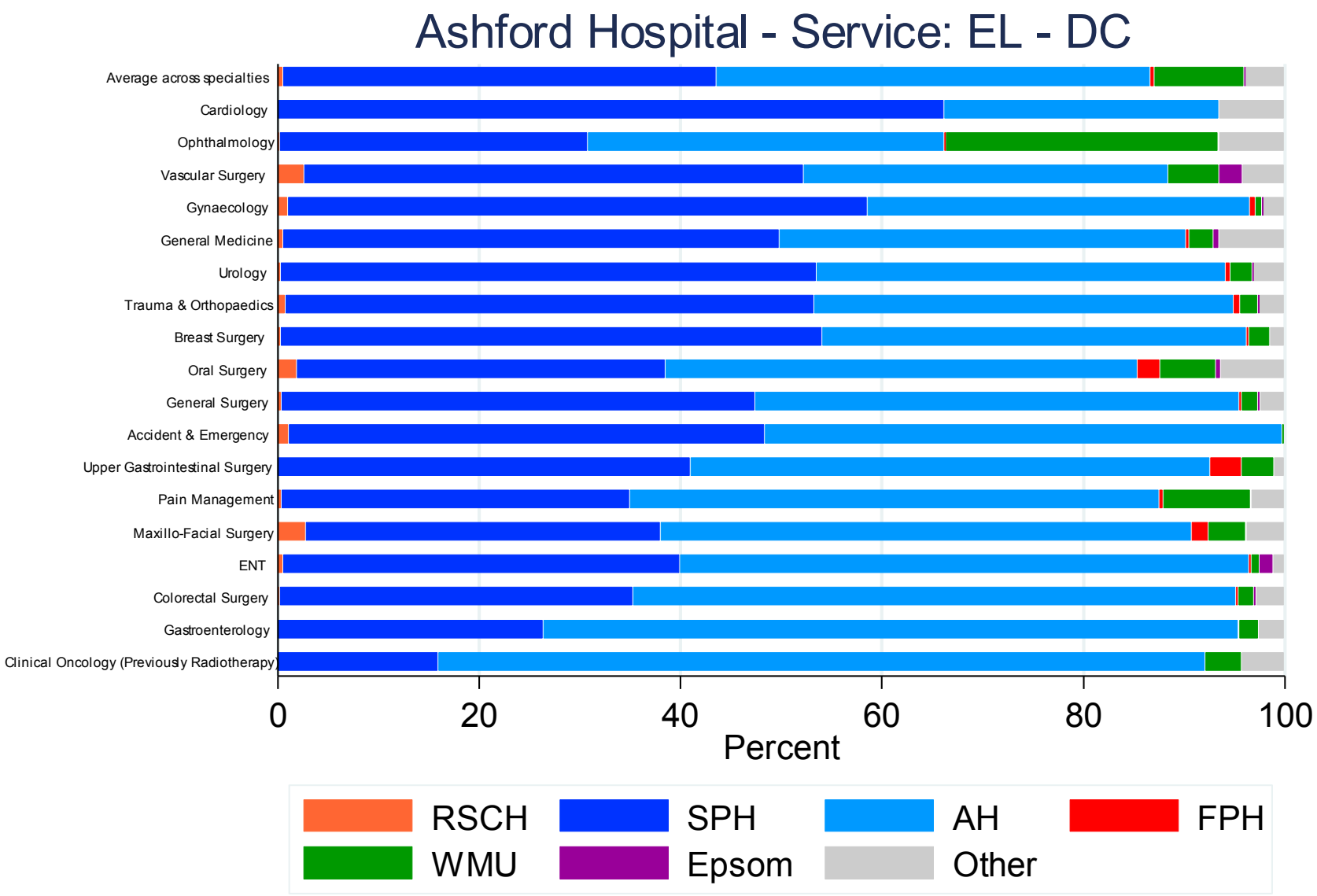
Percent
RSCH
SPH
AH
FPH
WMU
Epsom
Other

St Peter's Hospital - Service: EL - OP




Ashford Hospital - Service: EL - DC
Average across specialties
Cardiology
Ophthalmology
Vascular Surgery
Gynaecology
General Medicine
Urology
Trauma & Orthopaedics
Breast Surgery
Oral Surgery
General Surgery
Accident & Emergency
Upper Gastrointestinal Surgery
Pain Management
Maxillo-Facial Surgery
ENT
Colorectal Surgery
Gastroenterology
Clinical Oncology (Previously Radiotherapy)
0
20
40
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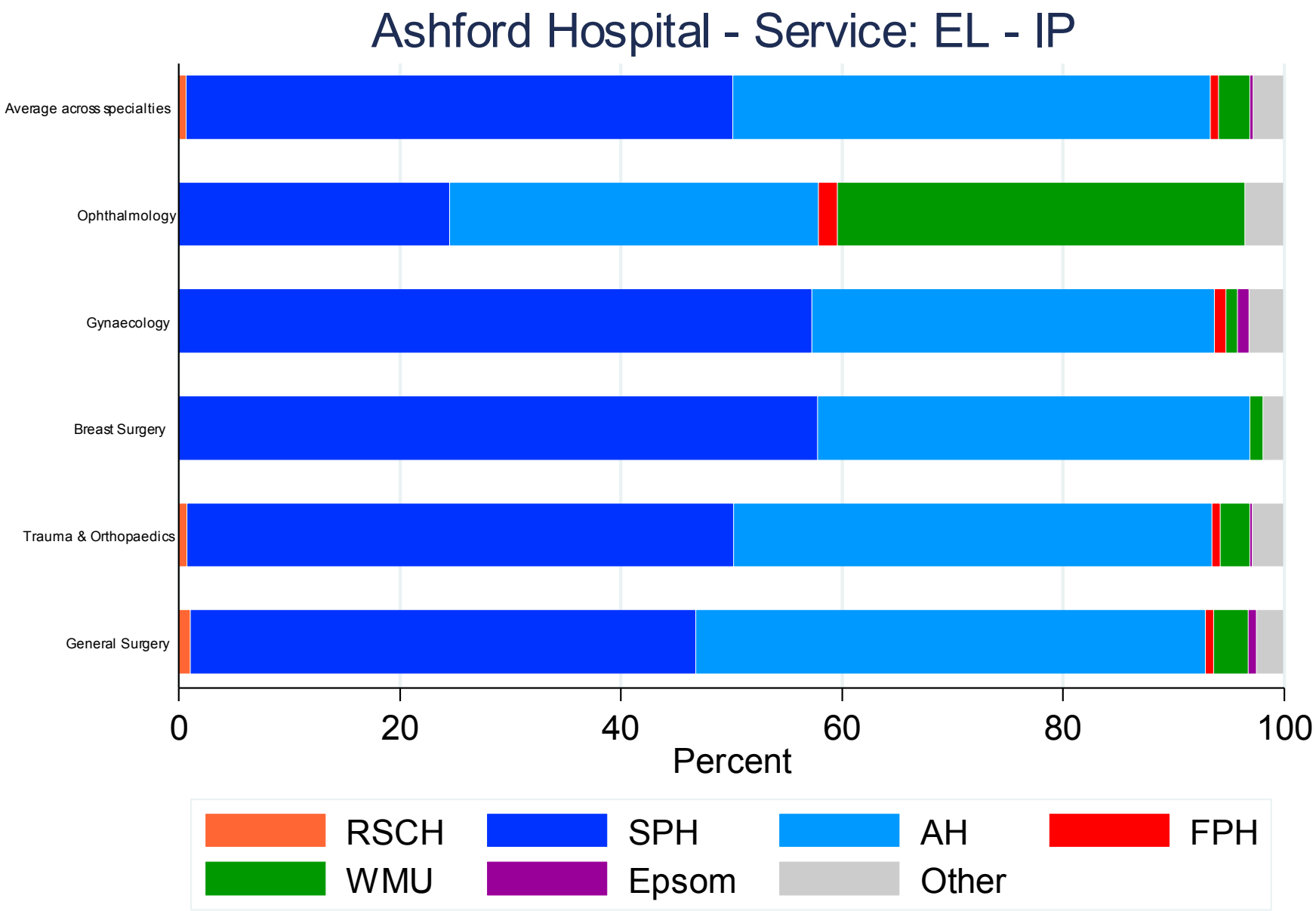
80
100
Percent
RSCH
SPH
AH
FPH
WMU
Epsom
Other


Ashford Hospital - Service: EL - IP
Average across specialties
Ophthalmology
Gynaecology
Breast Surgery
Trauma & Orthopaedics
General Surgery
0
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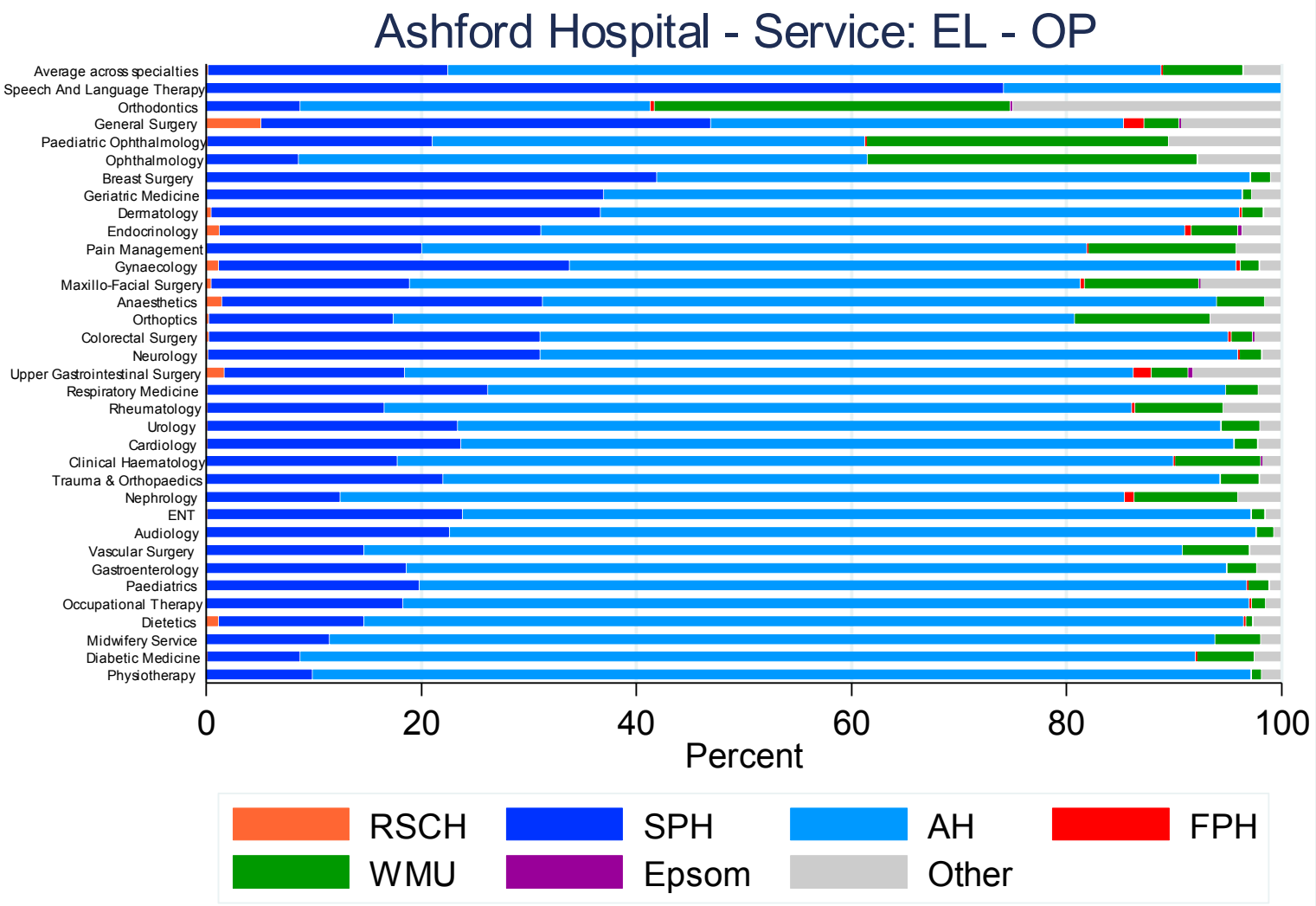
Epsom
Other



Source: HES data, CMA analysis.
Note: WMU = West Middlesex University Hospital; FPH = Frimley Park Hospital; EL = elective; OP = outpatient; IP = inpatient.

Linkages between specialties and treatment settings

Summary

1. We have investigated whether there are linkages between specialties, such that there are aspects of quality which are set in a common way across specialties. Examples of reasons for such linkages include the following:

   (a) The delivery of care and patient pathways are interlinked.

   (b) The organisation of specialties within providers, for example because patients across specialties are on the same ward.

   (c) Decision-making processes are consistent across specialties.

   (d) Quality is considered to be linked by patients/GPs when they make decisions about choice of hospital. Examples of aspects of quality which may be common across specialties include (i) cleanliness of wards; (ii) nurse ratios for specialties on the same ward; and (iii) expertise and equipment for specialties that are clinically linked.

2. Linkages between specialties and treatment settings are important both to how we conduct the analysis and interpret the results (for example, in GP referral analysis), and in determining where harm may arise if there is a substantial lessening of competition due to the merger.

3. We have considered the following sources of evidence:

   (a) the Parties' submissions on clinical linkages;

   (b) GP referrals;

   (c) organisation of specialties by the Parties;

   (d) decision-making processes by specialty by the Parties; and

   (e) organisation of elective and non-elective services by the Parties.

4. Based on the evidence in this case, we consider it appropriate to aggregate the following specialties:

   (a) **Audiology and Audiological Medicine**: we consider that it is likely that these specialties are linked against a patient pathway. We note that Audiological Medicine is consultant-led, unlike in Audiology. Although we

also note the Parties' submissions that activity within these specialties is largely the same, with trusts tending to use one or the other TFC to record their activity. Given the above, it seems appropriate to group these specialties in our analysis.

5. We consider that the evidence considered on clinical linkages, GP referrals, organisation of specialties by the Parties and decision-making processes at the Parties, supports there being linkages between the following groups of specialties:

   (a) **Medical specialties**: General Medicine, Endocrinology, Geriatric Medicine, Gastroenterology, Diabetic Medicine, Transient Ischemic Attack.

   We note that medical specialties are mainly non-elective. With respect to Transient Ischemic Attack, we note that patients in this specialty may follow a separate pathway and be on separate acute stroke wards, however we also understand that the specialty is frequently cross-coded with General Medicine.

   (b) **Surgical specialties**: General Surgery/Colorectal Surgery/Upper Gastrointestinal Surgery/Breast Surgery.

   We note that Colorectal Surgery and Breast Surgery are cancer related. Minimum activity requirements can restrict the providers that can offer these services. Also, the location of screening programs can have an impact on referrals. We note that some support and diagnostic services may also be linked to these groups of specialties, if these are predominately used within these specialty groups. For example, we understand that endoscopy is used by both medical and surgical specialties.

6. We consider that there may also be links between the following specialties for the following reasons:

   (a) **Audiology & Audiological Medicine/ENT:** There appear to be clinical linkages between these specialties, and common decision-making at the Parties. However, it is asymmetric, with more complex ear issues being dealt with under ENT, which is consultant-led, but less complex issues being considered within the Audiology/Audiological Medicine TFCs. We therefore consider these specialties separately in our analysis, and together as a sensitivity check.

   (b) **Midwife Episodes and Obstetrics**: There are clinical linkages between these specialties in that both deal with maternity and patients may swap

between these specialties based on need. However, we note that there are strict criteria on midwife-led care and that not all providers may provide both specialties. The former is midwife-led and the latter consultant-led. Patients who require an obstetrician-led delivery for medical reasons may not be able to switch to a midwife-led delivery. We therefore consider these specialties separately in our analysis, and together as a sensitivity check.

(c) **Ophthalmology and Orthoptics**: There appear to be clinical links between the specialties, as patients can be treated as part of multi-disciplinary teams.[1] However, providers may not always provide both services. We therefore consider these specialties separately in our analysis, and together as a sensitivity check.

(d) **Oral and Maxillo-Facial Surgery**: **T**hese specialties are grouped together organisationally by the Parties. Oral surgery is a dental specialty and there is no requirement to hold a medical degree, whereas Maxillo-facial consultants will have undertaken both dental and medical training.[2] We understand that a substantial amount of the volumes coded by the Parties and local alternatives under Maxillo-Facial Surgery are comprised of treatments that can also be coded under Oral Surgery, and that Oral Surgery activity is a subset of Maxillo-Facial activity. We consider the implications of this in detail in Annex 2, and conclude that in this case it is appropriate to consider these specialties together.

(e) **Paediatrics and all Paediatric sub-specialties**: The Parties submitted that trusts adopted different approaches to coding Paediatric activity, with some making much greater use of the general Paediatrics TFC, and others coding their activities to more specific paediatric specialties. Hence, analysis at a sub-speciality level may not be representative of hospital activity and capability to offer treatments at the sub-specialty level.

We note that not all providers may provide the full set of sub-specialties for elective patients, as there is guidance on the volume of activity necessary to undertake and the ability to offer the services will be consultant-dependent. We consider Paediatrics separately from other sub-specialties on a cautious basis, as it may not be possible for all providers to provide all sub-specialties. We also group these sub-

[1] See NHS Careers website: Orthoptist.
[2] See NHS Careers website: Oral surgery.

specialties in the analysis to inform our interpretation of the individual sub-specialty results.

7. With respect to elective and non-elective services, providers generally will offer the same service to admitted patients across elective and non-elective services within a specialty. We note that this may not be the case for some specialties, for example, Trauma and Orthopaedics, where there is clinical guidance on separating elective and non-elective patient flows.

8. To the extent that certain aspects of quality (for example, the cleanliness of wards, the equipment, the expertise of staff) cannot be differentiated by patient type (ie elective or non-elective patients), patients of both types will be affected if these aspects of quality decline. In other words, an SLC in an elective specialty might lead to a reduction in aspects of quality that are common to elective and non-elective patients, and could lead to harm for both patient types. Alternatively, it may be that the inability to differentiate certain aspects of quality by patient type may mean that an SLC in an elective specialty is less likely. In summary, we have considered the Parties' incentives taking into account incentives with respect to elective and non-elective patients in considering whether an SLC is likely within a market, and also where harm is likely to arise.

Evidence on linkages between specialties and treatment settings

9. The remainder of this appendix presents the evidence we have on linkages between specialties and treatment settings.

Parties' submissions on clinical linkages

10. The Parties submitted the following on clinical linkages between specialties:

- ***Audiology/Audiological Medicine***: activity within these two specialties is largely the same, with trusts tending to use one or the other TFC to record their activity.

- ***Audiology/Audiological Medicine/ENT****:* there are clinical links across these specialties, with more complex ear issues being dealt with under ENT, but less complex issues being considered within the Audiology/ Audiological Medicine TFCs.

  There is the possibility that some Audiological Medicine patients at RSC might have been labelled at ENT patients had they been seen at another trust. This is because the consultant that provided Audiological Medicine services at RSC was an ENT consultant with an interest in audiology.

RSC's Consultant in Audiological Medicine retired in March 2015. Legacy patients (those already in the RSC system) are being seen by the ENT consultants as required.

- **Medical Specialties**: General Medicine, Endocrinology, Geriatric Medicine, Gastroenterology, Diabetic Medicine, Transient Ischemic Attack:
  - ***General Medicine***: recording of activity in the General Medicine specialty can be highly variable across trusts (in the same way as General Surgery). Some trusts make much greater use of this TFC and correspondingly code less activity to other medicine specialties, such as Endocrinology, Geriatric Medicine, Gastroenterology and Diabetic Medicine.
  - ***Geriatric Medicine***: recording of Geriatric Medicine activity is highly subjective and variable across trusts. In many cases, this activity may be recorded as General Medicine or in a specialty to which the particular condition is related. As a result, there is a case for grouping Geriatric Medicine with a broader group of Medicine-related specialties (see below).
  - ***Transient Ischemic Attack***: many trusts do not code to this TFC, but it represents a basic stroke-related service that all acute trusts can be expected to provide. One approach that may be appropriate is to group activity in this TFC with General Medicine.
- **Surgical specialties**: General Surgery/Colorectal Surgery/Upper Gastrointestinal Surgery/Breast Surgery.
  - ***General Surgery/Colorectal Surgery/Upper Gastrointestinal Surgery***: activity that might otherwise be recorded as General Surgery at ASP is recorded under more specific specialties (primarily Colorectal Surgery and Upper Gastrointestinal Surgery). On the other hand, RSC records significant levels of activity in General Surgery, but much less activity in Colorectal Surgery and Upper Gastrointestinal Surgery. There are similar variations across other trusts (see activity table in the ASP/RSC initial submission). [3]
  - ***Breast Surgery***: there are coding issues in Breast Surgery, particularly at Frimley Park, which has historically coded Breast Surgery activity as General Surgery.

[3] Parties' initial submission.

- ***Midwife Episodes/Obstetrics***: the CC and CMA have previously grouped Midwife Episodes and Obstetrics together for analytical purposes. Patients who require an obstetrician-led delivery for medical reasons may not be able to switch to a midwife-led delivery. It seems that on the supply side, most trusts will offer both capabilities, but it is not clear whether supply-side substitution is possible for a trust that only supplies one of these services. It is also worth noting that the same patient may have a first outpatient appointment in both Obstetrics and Midwife Episodes in the same way as happens in Ophthalmology/Orthoptics.

- ***Ophthalmology/Othoptics****:* ASP and RSC code activity to both the Ophthalmology and Orthoptics TFCs. In particular, ASP and RSC record a first outpatient appointment in each of Ophthalmology and Orthoptics for the same patient, while trusts that only code in Ophthalmology will record a first outpatient appointment and a follow-up outpatient appointment for the equivalent patient interaction.[4]

- ***Oral Surgery and Maxillo-Facial Surgery***: these two TFCs tend to be grouped together organisationally within trusts, and as a result, there is likely to be a degree of crossover in the coding of activity across the two TFCs. Oral Surgery activity is a subset of Maxillo-Facial Surgery.

- ***Paediatric specialties***: in Paediatrics there is an all-purpose specialty (ie Paediatrics) as well as a significant number of more specialist paediatric TFCs, such as Paediatric Cardiology, Paediatric Nephrology and Paediatric Respiratory Medicine. It seems likely that many trusts adopt different approaches to coding Paediatric activity, with some making much greater use of the general Paediatrics TFC, while others make a greater effort to code their activity to more specific paediatric specialties. Grouping paediatric specialties together for analytical purposes ensures that all of this activity is collectively analysed, rather than being skewed by coding practices across these specialties.[5]

GP referrals

11. The Parties submit that where the GP is uncertain about the precise nature of a patient's illness, the GP will deliberately refer patients to a general specialty

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[4] The Parties submit that this will show up in the GP referral analysis as a greater number of referrals to ASP and RSC in this combined specialty at each GP practice due to the greater number of first outpatient appointments at these two trusts.

[5] The Parties submitted that it would generally be sensible to group paediatric surgical TFCs with the adult equivalents (with the exception of Paediatric General Surgery and Paediatric Urology), and to group together the paediatric medicine TFCs. However, we do not consider it appropriate to group Paediatrics activity with adult activity, given that different expertise with required and different wards are used.

(eg General Surgery or General Medicine).[6] This indicates that the GP will be influenced by the quality of these specialties and more specific associated specialties (as set out above).

Organisation of specialties by the Parties

12. ASP submitted that in terms of services being provided on the same ward, wards at ASP were predominately grouped into Medical or Surgical or Orthopaedic or Paediatric. Therefore all surgical patients were co-located on the same wards. The same was true for medicine, though there are wards with a particular focus (eg respiratory or elderly care etc). However, the Parties submitted that this changed when demand for sub-specialties exceeded the nominal bed base. Day surgery was used by all surgical specialties and Endoscopy was used by both medical and surgical specialties.

13. The Parties also submitted that Oral Surgery and Maxillo-Facial Surgery tended to be grouped together organisationally within trusts.

14. We consider, given that some specialties are provided on the same ward, that there are aspects of quality that will be common across specialties (for example, cleanliness, expertise, equipment).

Decision-making processes by specialty by the Parties

15. ASP submitted that day-to-day management decisions at the specialty and division levels were made by a triumvirate made up of a clinician, a nurse and a manager. ASP has four divisions:

    (a) Children's and Women's Services;

    (b) Medicine;

    (c) Theatres, Anaesthetics, Surgery and Critical Care; and

    (d) Trauma and Orthopaedics Diagnostics and Therapies.

16. RSC submitted the following information on day-to-day management decisions:

    - Audiology/Audiological Medicine: departmental management decisions are taken in the first instance by the Head of Audiology, team leaders and

[6] Letter to the CMA dated 15 April 2015.

the ENT Clinical Director, supported by the senior management and Deputy Medical Director/Medical Director (DMD/MD) as required.

- Audiology/Audiological Medicine/ENT: departmental management decisions are taken in the first instance by the Specialty Manager, Matron and the ENT Clinical Director, supported by the senior management, senior nursing structure and DMD/MD as required.

- Breast Surgery/General Surgery: departmental management decisions are taken in the first instance by the Specialty Manager, Matron and the Breast and Gastrointestinal (GI) Surgery Clinical Directors, supported by the senior management, senior nursing structure and DMD/MD as required.

- General Surgery/Colorectal Surgery/Upper Gastrointestinal Surgery – as above.

- Ophthalmology/Othoptics/Medical Ophthalmology: departmental management decisions are taken in the first instance with the Specialty Manager, Lead Nurse and the Ophthalmology Clinical Director, supported by the senior management, senior nursing structure and DMD/MD as required.

- Oral Surgery and Maxillo-Facial Surgery – departmental management decisions are taken in the first instance with the Specialty Manager, Matron and the Maxillo Facial Clinical Director, supported by the senior management, senior nursing structure and DMD/MD as required.

Organisation of elective and non-elective services by the Parties

17. At ASP, elective and non-elective patients are co-located on the same specialty wards (see Annex 1).

18. At RSC, elective and non-elective patients are co-located on the same specialty wards. However, a significant proportion of elective patients requiring surgery with a length of stay of two days or less will be treated through the Surgical short-stay ward.

Parties' wards by specialty

Table 1: ASP

Hospital	*Ward*	*Specialty grouping*	*Type of patient*	*Elective*	*Non-elective*
ASH	Chaucer	Medical	Stroke rehabilitation		✓
ASH	Dickens	Surgical	General orthopaedic with occasional breast	✓	
ASH	Wordsworth	Medical	General rehabilitation and amputees	✓	
SPH	Aspen	Medical	Respiratory and haematology with some oncology	Some	Majority
SPH	Ash	Maternity/ Child Health	All childhood conditions	✓	✓
SPH	Birch Cardiac Unit	Medical	Coronary care	✓	✓
SPH	Cedar	Medical	Hyper acute stroke unit	✓	✓
SPH	Falcon	Surgical	Upper gastrointestinal, Urology, Colorectal, Breast and Vascular	✓	✓
SPH	Heron	Surgical	Vascular	✓	✓
SPH	Holly		General Care of the Elderly, specialising in dementia	Some referrals from other wards	Majority
SPH	ICU	Intensive Care	Emergencies and planned post op care	✓	✓
SPH	Joan Booker	Maternity/ Child Health	Referrals from labour ward and some from home (inductions)	✓	✓
SPH	Kingfisher	General surgical	Colorectal, Gynaecology, Upper gastrointestinal, Breast and Urology	✓	✓
SPH	Maple	Medical	Endocrinology, rheumatology and Care of the Elderly	Very rarely	✓
SPH	May	Medical	All conditions	Some referrals from MAU	Majority
SPH	MAU	Medical	Specialise in rheumatology, diabetes and elderly medicine	Occasional referrals from GPs	Majority
SPH	Medical HDU	Medical	From any specialty	✓	✓
SPH	MSSU	Medical	All conditions	Receives some patients from MAU and haematology out patients	Majority from A&E
SPH	Oak	Children's Day Unit	Day surgery, allergies blood tests etc	✓	
SPH	Surgical HDU	Surgical	All conditions	✓	✓
SPH	Swan	Orthopaedic	All conditions	Rarely (approximately 1 a week)	Majority
SPH	Swift	Medical	All conditions including dementia and falls	✓	

Table 2: RSC

Ward	*Specialty*
ADU Clandon Ward	ICU
Albury Ward	Respiratory
Bramshott Ward	Trauma & Orthopaedics
Clandon	ENT
Clandon	Oral Surgery
Clandon Ward	Maxillo-Facial
Eashing Ward	Care of the Elderly
Elstead	Gynaecological Oncology
Elstead	Gynaecology
Elstead Purple Team	Breast
Ewhurst Ward	Trauma & Orthopaedics
Frensham	Colorectal Surgery
Frensham	Hepatobiliary & Pancreatic Surgery
Frensham	Upper Gastrointestinal Surgery
Frensham Red Team	General Surgery
Hascombe	Paediatric Gastroenterology
Hascombe	Paediatric Infectious Diseases
Hascombe	Paediatric Medical Oncology
Hascombe	Paediatric Respiratory Medicine
Hascombe	Paediatric Surgery
Hascombe Ward	Paediatrics
Hindhead Escalation Ward	Bed Mgmt & Discharge Support
Hindhead Ward	Stroke
Hindhead Ward	Neurology
ICU	Critical Care Medicine
Merrow	Rheumatology
Merrow Ward	Cardiology
Millbridge	Hepatology
Millbridge Ward	Gastroenterology
Onslow	Medical Oncology
Onslow	Clinical Haematology
Onslow	Haemophilia
Onslow Ward	Oncology
Radiotherapy Dept	Clinical Oncology (previously Radiotherapy)
SCBU	Neonatology
Shere Ward	Obstetrics
Shere Ward/St Catherine's	Midwife Episode
Shere Ward/St Catherine's	Well Babies
St Catherine's	Obstetrics
Surgical Compton Nonpay2	Urology
Tilford Ward	Diabetes/Endocrinology
Wisley Ward	Care of the Elderly

Analysis of Hospital Episode Statistics data for Maxillo-Facial Surgery

Analysis of treatment data based on existing coding patterns

1. We conducted an analysis of treatment and diagnosis codes in HES data to understand the extent to which spells with the same codes are recorded under different specialties, either within the same trust or across different trusts. We focused on West Middlesex, as its referral share changed significantly depending on whether Oral Surgery was included or excluded from the group. However we also considered volumes at a number of other providers which appeared to be alternatives for the Parties.[7]

2. This analysis suggested that a significant volume of West Middlesex's Oral Surgery was comprised of procedures which the Parties code under Maxillo-Facial Surgery. The same was true for Kingston and (to a lesser extent) also St George's.

3. The analysis also suggested that, of spells with the same treatment codes,[8] several trusts coded these spells under Maxillo-Facial Surgery whilst RSC coded spells under Oral Surgery. RSC coded different spells with the same treatment code under both specialties. The picture was similarly mixed when considering how other trusts' coding patterns would change volumes between the specialties at the Parties.

Analysis of treatment data using information on specialty validity

4. With input from Monitor, we also identified spells in our data that had been assigned a treatment code which is likely to be associated with Maxillo-Facial Surgery but not Oral Surgery, and spells that had been assigned a treatment code which could potentially be associated with either speciality.

5. We found that Oral Surgery at each of the trusts we considered was almost entirely comprised of spells with treatment codes identified as compatible with either specialty. The small minority remaining were associated with codes only compatible with Maxillo-Facial Surgery or were not associated with any codes assigned to a specialty.

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[7] We considered volumes recorded at ASP, RSC, Heatherwood and Wexham Park, Kingston, Frimley Park, North West London, St George's and West Middlesex

[8] We defined the treatment code of the spell as either the dominant procedure or the primary diagnosis, depending on which drove its payment.

6. Figures 1 and 2 show the results of our analysis.

7. We also found that Maxillo-Facial Surgery was, to a large extent, comprised of spells with treatment codes which could also be associated with Oral Surgery. 62% of ASP's and 67% of RSC's volumes were made up of these spells. The figure was at least as high (63 to 82%) for Heatherwood & Wexham Park, North West London and West Middlesex, which appeared to be relatively better alternatives in the individual referral analyses.

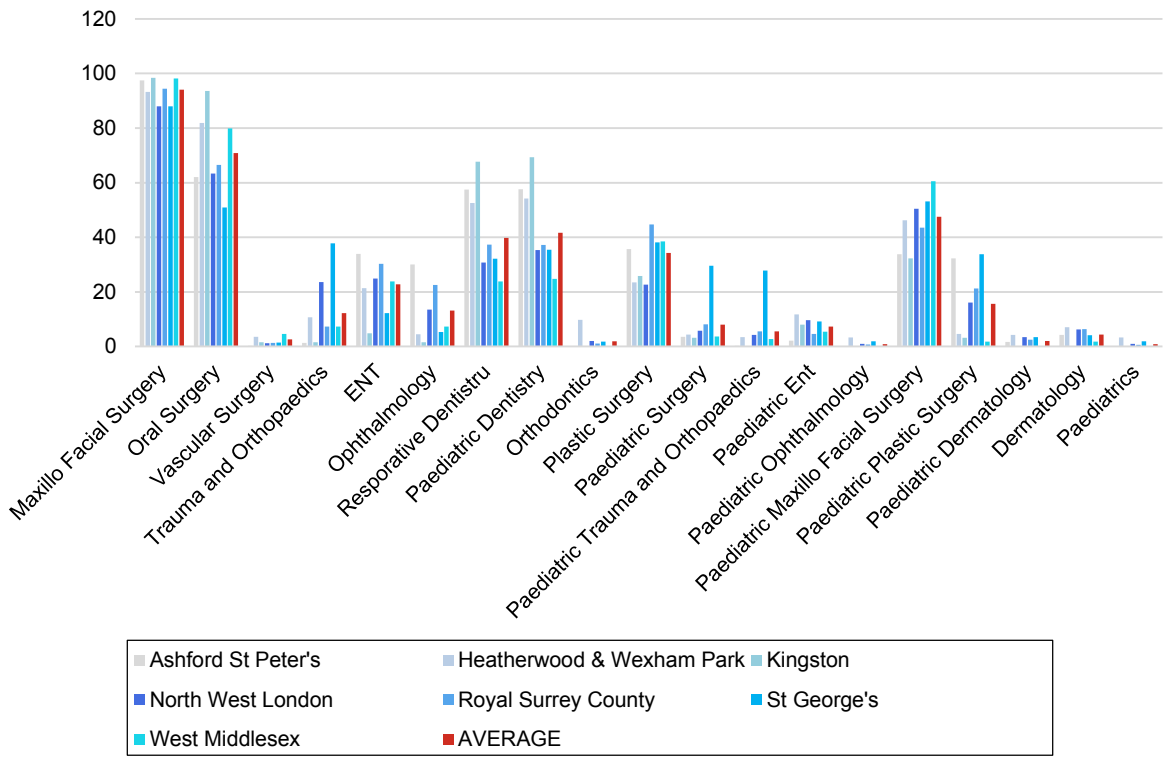
8. By contrast, the volumes of Maxillo-Facial Surgery and Oral Surgery at these trusts was to a much lower extent comprised of diagnosis codes that would be valid in other specialties.[9] We found that on average around 70% of Maxillo-Facial volumes were coded with diagnoses valid in Oral Surgery. Moderate levels of activity were valid in Restorative Dentistry, Paediatric Dentistry and Paediatric Maxillo-Facial Surgery (40 to 48%), however neither Party coded any activity in these specialties during the period covered by our HES data, and therefore on a conservative basis we excluded these specialties.

9. The most significant specialty where the Parties overlapped was ENT, under which on average 23% of the trusts' Maxilla-Facial volumes would have been valid. We considered this materially lower than the 70% validity for Oral Surgery, and therefore excluded it from the grouping.

10. We found similar results for Oral Surgery, where almost all volumes had diagnoses that would have been valid under Maxillo-Facial Surgery, Restorative Dentistry and Paediatric Dentistry. Again, since the Parties did not code any volume under the latter two specialties, we excluded them from the group.

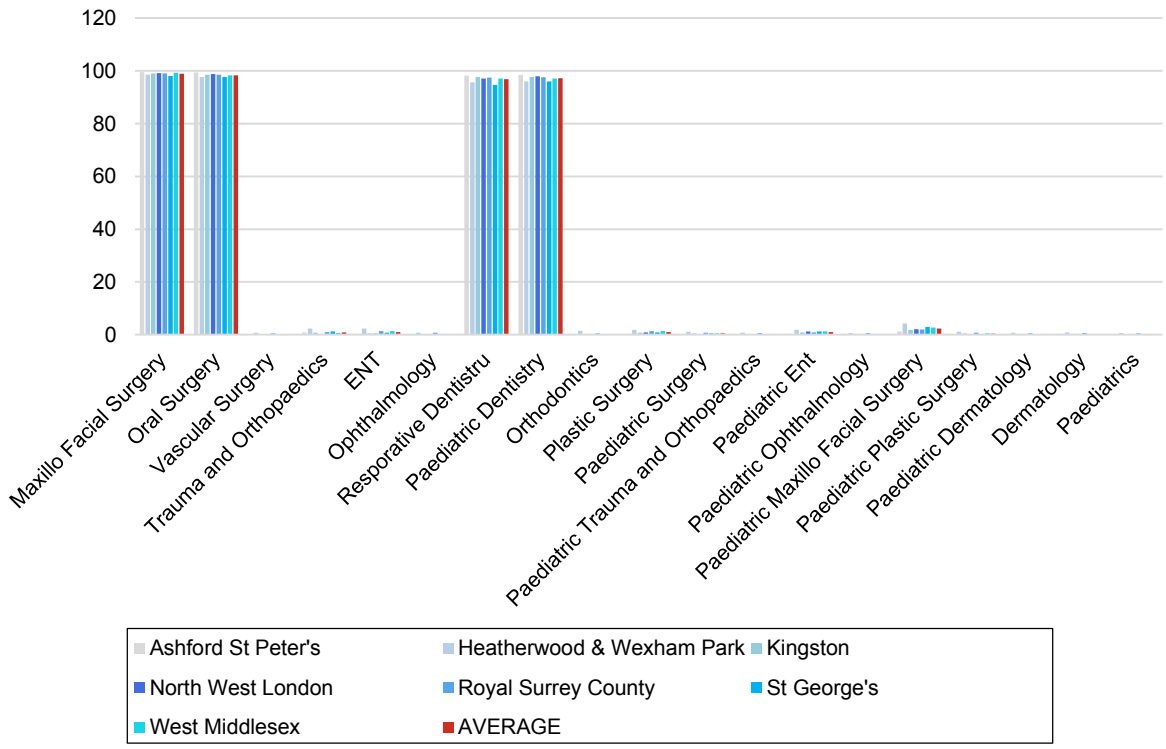
[9] We did not have this information for procedure codes, and so could not calculate the measure based on our definition of treatments.

Figure 1: Percentages of Surrey providers' Maxillo-Facial Surgery comprised of diagnoses that could have been coded under other specialties



Source: CMA analysis.

Figure 2: Percentages of Surrey providers' Oral Surgery comprised of diagnoses that could have been coded under other specialties



Source: CMA analysis.

11. This analysis showed that it was appropriate to combine Maxilla-Facial and Oral Surgery as a starting point for our competitive assessment.

Overlap services between the Parties

1. The extent to which each specialty would be affected by the merger is affected by the degree of overlap between the Parties. We have therefore assessed the services in which the Parties overlap, and the extent of the overlap in terms of volume and value of treatments undertaken.

2. In our market definition, we considered that specialties should be considered as separate markets as there is generally supply-side substitution across treatments within a specialty. In line with previous CMA inquires, we used Treatment Function Codes (TFCs) as proxies for specialties.

Parties' views

3. The Parties identified overlaps between ASP and RSC in those specialties where both Parties carried out a minimum amount of activity (ie at least ten episodes)[1] between 1 April 2012 and 30 March 2014.

[1] The NHS data dictionary defines an episode as 'the time a patient spends in the continuous care of one consultant using hospital site or care home bed(s) of one healthcare provider or, in the case of shared care, in the care of two or more consultants'. All treatments given to the patients during this time are included within the activity group, which forms the basic unit of HES data.

Table 1: Specialties as identified by the Parties where both trusts recorded at least ten episodes over two years of HES data

Specialty	*Outpatient appointments*	*Day-case spells*	*Inpatient spells*	*Non-elective spells*
Accident & Emergency				Y
Anaesthetics	Y			
Audiological Medicine	Y			
Audiology	Y			
Breast Surgery	Y	Y	Y	Y
Cardiology	Y	Y	Y	Y
Clinical Haematology	Y	Y	Y	Y
Colorectal Surgery	Y	Y	Y	Y
Dermatology	Y	Y		
Diabetic Medicine	Y			Y
Endocrinology	Y			Y
ENT	Y	Y		Y
Gastroenterology	Y	Y	Y	Y
General Medicine	Y			Y
General Surgery	Y	Y	Y	Y
Geriatric Medicine	Y			Y
Gynaecology	Y	Y	Y	Y
Maxillo-Facial Surgery	Y	Y		Y
Medical Oncology	Y			
Midwife Episode	Y			Y
Neonatology				Y
Neurology	Y			
Obstetrics	Y			Y
Ophthalmology	Y	Y		
Oral Surgery	Y	Y		
Orthodontics	Y			
Orthoptics	Y			
Paediatric Cardiology	Y			
Paediatric Clinical Immunology and Allergy	Y			
Paediatric Endocrinology	Y			
Paediatric Surgery	Y			
Paediatrics	Y	Y	Y	Y
Pain Management	Y	Y		
Respiratory Medicine	Y	Y	Y	Y
Rheumatology	Y	Y		Y
Transient Ischaemic Attack	Y			
Trauma & Orthopaedics	Y	Y	Y	Y
Upper Gastrointestinal Surgery	Y	Y	Y	Y
Urology	Y	Y	Y	Y
Well Babies				Y

Source: Provided by the Parties.

4. The Parties told us that this approach could result in some specialties being identified as overlaps where activity was recorded through coding issues, meaning that the Parties might not both be suppliers of services.[2] Further, the Parties told us that some specialties might not involve provider choice, and cited Anaesthetics as an example.

5. The Parties also told us that, in two specialties, Clinical Haematology and Anticoagulant Services, the services supplied by ASP and RSC were through a pathology services joint venture (JV) in which ASP, RSC and Frimley Park

[2] The Parties noted that they recorded a non-negligible level of activity in some specialties which patients could not actually choose: for example, in ENT the Parties submitted that all inpatient activity at ASP was likely to be day-cases that had overrun and spanned two days, and had therefore been coded as inpatient appointments.

all participated. This meant that there was no separate provision of services by the Parties in these two specialties, and thus no overlap between them.

6. As a result, the Parties submitted lists of services which they considered that they provided. This list shows that the Parties would overlap in at least one treatment setting for 51 specialties.[3]

7. The Parties submitted that within some specialties which the Parties both provide, there were significant differences in the sub-specialty level offerings. For example, they told us that there were significant areas in Maxillo-Facial Surgery where RSC provided services that were not offered by ASP (and to a lesser extent vice versa). We took this into account in our analysis as described below.

CMA analysis

8. In order to ensure robustness and consistency with the rest of our analysis, we used our own HES data to identify specialties and treatment settings where the Parties both provided at least ten episodes across the 2010 to 2014 period.

9. In light of the Parties' submissions regarding the reliability of HES data, we also considered their views as to what they provide and other evidence, such as their websites to test the HES data. In order to avoid missing potential competition concerns, we reviewed any specialty in which both Parties provided the minimum number of episodes over the four years covered by HES data, or in which both Parties considered that they are a provider.

10. Where the measures were in disagreement, for example because the Parties submitted that one of them does not actually provide the service or that coding issues meant HES data overstated the provision of services by one Party, we took these arguments into account in the competitive assessment.

11. Table 2 presents a summary of the overlaps we identified, broken down by treatment setting.

[3] This figure is all specialties in which the Parties told us that the trusts consider they provide services. Clinical Haematology and Anticoagulant services were included as overlaps on this basis.

Table 2: Summary of specialty level overlaps as calculated by the CMA*

Specialty	*Outpatient appointments*	*Day-case spells*	*Inpatient spells*	*Non-elective spells*
Accident & Emergency	Y			Y
Anaesthetics	Y			
Anticoagulant Service	Y			
Audiology & Audiological Medicine	Y			
Breast Surgery	Y	Y	Y	Y
Cardiac Rehabilitation	Y			
Cardiology	Y	Y	Y	Y
Cardiothoracic Surgery	Y			
Clinical Haematology	Y	Y	Y	Y
Clinical Neurophysiology	Y			
Clinical Oncology	Y			
Clinical Psychology	Y			
Colorectal Surgery	Y	Y	Y	Y
Critical Care Medicine			Y	Y
Dermatology	Y	Y		Y
Diabetic Medicine	Y			Y
Dietetics	Y			
Endocrinology	Y	Y	Y	Y
ENT	Y	Y	Y	Y
Gastroenterology	Y	Y	Y	Y
General Medicine	Y	Y		Y
General Surgery	Y	Y	Y	Y
Geriatric Medicine	Y		Y	Y
Gynaecology	Y	Y	Y	Y
Interventional Radiology		Y	Y	Y
Maxillo-Facial Surgery	Y	Y	Y	Y
Medical Oncology	Y	Y		Y
Midwife Episode	Y			Y
Neonatology		Y	Y	Y
Neurology	Y	Y		
Obstetrics	Y	Y	Y	Y
Occupational Therapy	Y			
Ophthalmology	Y	Y	Y	Y
Oral Surgery	Y	Y		
Orthodontics	Y			
Orthoptics	Y			
Paediatric Cardiology	Y			
Paediatric Clinical Immunology and Allergy	Y			
Paediatric Diabetic Medicine	Y			
Paediatric Endocrinology	Y			
Paediatric Respiratory Medicine	Y			
Paediatric Surgery	Y			
Paediatric Trauma and Orthopaedics	Y			
Paediatric Urology	Y			
Paediatrics	Y	Y	Y	Y
Pain Management	Y	Y	Y	Y
Physiotherapy	Y			
Respiratory Medicine	Y	Y	Y	Y
Rheumatology	Y	Y	Y	Y
Speech and Language Therapy	Y			
Transient Ischaemic Attack	Y			
Trauma & Orthopaedics	Y	Y	Y	Y
Upper Gastrointestinal Surgery	Y		Y	Y
Urology	Y	Y	Y	Y
Vascular Surgery	Y	Y		
Well Babies		Y	Y	Y

Source: CMA analysis.
*Table shows only TFCs where an overlap was found in at least one treatment setting.

12. Table 3 summarises the specialties where the overlaps derived from HES data and Parties' submissions as to whether they are actually providing the services are not in agreement for at least one treatment setting.

Table 3: Summary of differences between the overlaps indicated by the CMA's HES data and the submissions by the trusts as to whether they are actually providing the services

	Outpatients		*Day-cases*		*Inpatients*		*Non-elective*	
	HES method	*Trusts' views*	*HES method*	*Trusts' views*	*HES Method*	*Trusts' views*	*HES method*	*Trusts' views*
Accident & Emergency	Y						Y	Y
Anaesthetics	Y							
Audiology & Audiological Medicine	Y							
Cardiac Rehabilitation		Y						
Cardiothoracic Surgery	Y							
Clinical Neurophysiology		Y						
Clinical Oncology	Y							
Clinical Psychology		Y						
Critical Care Medicine						Y		Y
Dermatology	Y	Y	Y	Y				Y
Dietetics		Y						
Endocrinology	Y	Y	Y	Y		Y	Y	Y
ENT	Y	Y	Y	Y	Y		Y	Y
Interventional Radiology				Y		Y		Y
Maxillo-Facial Surgery	Y	Y	Y	Y	Y		Y	Y
Medical Oncology	Y	Y	Y	Y				Y
Midwife Episode		Y						Y
Neonatology			Y		Y		Y	Y
Neurology	Y	Y		Y				
Obstetrics	Y	Y	Y		Y		Y	Y
Occupational Therapy		Y						
Oral Surgery		Y	Y					
Paediatric Clinical Immunology and Allergy		Y						
Paediatric Surgery	Y							
Paediatric Urology	Y							
Pain Management	Y	Y	Y	Y	Y	Y		Y
Physiotherapy		Y						
Speech and Language Therapy		Y						
Vascular Surgery	Y		Y					
Well Babies			Y		Y		Y	Y

Source: CMA analysis.

13. Following the Parties' submissions surrounding the extent to which they overlap at the sub-specialty level, we calculated the percentage of the volumes for each day-case and inpatient specialty which consist of treatments[4] that both Parties provide.[5]

14. Since this analysis does not account for the possibility that different treatments may be substitutable either from a demand- or a supply-side perspective, we believe this measure to be indicative of the minimum extent of sub-specialty level overlaps.

15. We found that a significant majority of most specialties consisted of overlapping treatments. Where this percentage was lower, however, or where the Parties provided evidence to suggest that coding issues affected this

[4] We defined the treatment of an episode to be either its dominant procedure or its primary diagnosis, depending on which code generated the payment to the trust. Therefore where both parties coded at least one episode with the same dominant procedure or primary diagnosis code, and those episodes both generated payments on the basis of the code that was the same, we counted that episode as an overlapping treatment.

[5] We were not able to calculate this measure for outpatients as full procedure and diagnosis level information is only available for admitted patients in HES data.

analysis, we considered the impact of such sub-specialty considerations in the competitive assessment.

16. In order better to understand the extent to which the Parties overlap, we have calculated the amount of activity each trust performed in each overlap specialty in the most recent year covered by our HES data (2013/14),[6] and also approximated the revenues associated with these specialties.[7] We calculated these volumes and values for all treatments within these overlaps and also for overlapping treatments only. These figures are included in Tables 4 to 8 below.

[6] We calculated overlaps using Finished Consultant Episodes, which represent units of care given to patients by the same consultant during one stay in hospital. For the outpatient overlap analysis we included both first- and follow-up appointments, and included all sources of referrals.

[7] Values were calculated by matching the HRG codes in the 2013/14 data with 2013/14 national tariffs, adjusted for length of stay, bundling and (for outpatients) procedure/attendance based variation. To account for the fact that hospitals are paid on spells rather than episodes, we allocated the spell payment to the dominant episode within the spell, which we determined to be the episode generating the highest-value procedure or diagnosis (depending on which generated the payment for the spell). Discussions with [✂] indicated that this would be a reasonable approach to take when approximating PbR data, which we did not have access to during this inquiry. We did not consider it necessary to adjust revenues by the Market Forces Factor given that this would apply uniformly, and would have been almost exactly the same at both Parties for the period considered. The revenues derived from this process will not be exact, but we consider them to be a reasonable approximation and informative for our analysis of the financial incentives on the Parties at the time the referrals were made.

Table 4: Outpatient overlapping specialties by volume and value, 2013/14

Outpatient overlaps	*Volume (number of episodes)*			*Value (£)*		
Specialty	*AH*	*SPH*	*RSC*	*AH*	*SPH*	*RSC*
Accident & Emergency	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Anaesthetics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Anticoagulant Service	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Audiology & Audiological Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Breast Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiac Rehabilitation	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiothoracic Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Haematology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Neurophysiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Oncology (previously Radiotherapy)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Psychology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Colorectal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Dermatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Diabetic Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Dietetics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Endocrinology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ENT	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gastroenterology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Geriatric Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gynaecology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maxillo-Facial Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Medical Oncology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Midwife Episode	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neurology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Obstetrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Occupational Therapy	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Ophthalmology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Orthodontics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Orthoptics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Cardiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Clinical Immunology and Allergy	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Diabetic Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Endocrinology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Respiratory Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Trauma and Orthopaedics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatric Urology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Pain Management	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Physiotherapy	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Respiratory Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Rheumatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Speech and Language Therapy	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Transient Ischaemic Attack	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Trauma & Orthopaedics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Upper Gastrointestinal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Urology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Vascular Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
Note: Volume is calculated on the basis of episodes. Value is calculated at the spell level.

Table 5: Day-case overlap specialties (including all treatments) by volume and value, 2013/14

Day-case overlaps	*Volume (number of episodes)*			*Value (£)*		
Specialty	*AH*	*SPH*	*RSC*	*AH*	*SPH*	*RSC*
Breast Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Haematology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Colorectal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Dermatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Endocrinology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ENT	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gastroenterology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gynaecology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Interventional Radiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maxillo-Facial Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Medical Oncology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neonatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neurology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Obstetrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Ophthalmology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Oral Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Pain Management	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Respiratory Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Rheumatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Trauma & Orthopaedics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Urology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Vascular Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Well Babies	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
Note: Volume is calculated on the basis of episodes. Value is calculated at the spell level.

Table 6: Day-case overlap specialties (including only overlapping treatments) by volume and value, 2013/14

Day-case overlaps (overlapping treatments)	*Volume (number of episodes)*			*Value (£)*		
Specialty	*AH*	*SPH*	*RSC*	*AH*	*SPH*	*RSC*
Breast Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Haematology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Colorectal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Dermatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Endocrinology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ENT	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gastroenterology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gynaecology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Interventional Radiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maxillo-Facial Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Medical Oncology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neonatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neurology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Obstetrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Ophthalmology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Oral Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Pain Management	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Respiratory Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Rheumatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Trauma & Orthopaedics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Urology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Vascular Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Well Babies	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
Note: Volume is calculated on the basis of episodes. Value is calculated at the spell level.

Table 7: Inpatient overlap specialties (including all treatments) by volume and value, 2013/14

Inpatient overlaps	*Volume*			*Value*		
Specialty	*AH*	*SPH*	*RSC*	*AH*	*SPH*	*RSC*
Breast Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Haematology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Colorectal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Critical Care Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Endocrinology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ENT	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gastroenterology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Geriatric Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gynaecology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Interventional Radiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maxillo-Facial Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neonatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Obstetrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Ophthalmology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Pain Management	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Respiratory Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Rheumatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Trauma & Orthopaedics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Upper Gastrointestinal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Urology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Well Babies	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
Note: Volume is calculated on the basis of episodes. Value is calculated at the spell level.

Table 8: Inpatient overlap specialties (including only overlapping treatments) by volume and value, 2013/14

Inpatient overlaps (overlapping treatments)	*Volume*			*Value*		
Specialty	*AH*	*SPH*	*RSC*	*AH*	*SPH*	*RSC*
Breast Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Cardiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Clinical Haematology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Colorectal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Critical Care Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Endocrinology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ENT	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gastroenterology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
General Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Geriatric Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Gynaecology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Interventional Radiology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maxillo-Facial Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Neonatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Obstetrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Ophthalmology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Paediatrics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Pain Management	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Respiratory Medicine	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Rheumatology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Trauma & Orthopaedics	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Upper Gastrointestinal Surgery	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Urology	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Well Babies	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Total	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA analysis.
Note: Volume is calculated on the basis of episodes. Value is calculated at the spell level.

Parties' responses to competitive dynamics

Introduction

1. We conducted a review of the Parties' investment decisions and internal documents to consider the extent to which competition is a driver of improvements to the quality of services. NHS providers operate in a regulated environment and commissioners play an important role in protecting the quality of services. Furthermore, NHS hospitals are required to provide high quality care to their patients and have a duty to cooperate with other providers of NHS services for the purposes of the NHS.[1] Therefore, competition is one of the factors that might help to maintain or improve the quality of services and must be viewed in light of these other factors.

2. We have identified examples of investments in services that were primarily or wholly on the basis of considerations other than competition. These investments were typically aimed at addressing issues concerning service quality and were triggered by commissioner or regulator concerns about service standards.

3. We have also identified examples of responses which appear consistent with competitive responses, including the following:

   (a) Monitoring of referral activities at other hospitals.

   (b) Monitoring of performance against other providers.

   (c) Improving integration and cooperation with GPs.

   (d) Improving patient access to services.

   (e) Investments into improving an input or process.[2]

4. The evidence that we considered suggests that competition is one of the drivers for improving services, although its importance varies with the context. Regulatory and commissioner considerations appear to be particularly important in relation to major clinical investments. Competition considerations

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[1] Monitor (2013), *The new NHS provider licence,* paragraph 3.
[2] These examples are consistent with the framework set out in a 2012 paper by The Cooperation and Competition Panel (CCP), *Inside the black box: How competition between hospitals improves the quality and integration of services*, following the CCP's review of strategy and board documents which covered the period 2007 to 2012 obtained in the course of its investigations into hospital trust mergers over the period May 2011 to May 2012.

appear to be particularly important in relation to the introduction of services in new geographic areas, such as through outpatient clinics.

The role of commissioners

5. Commissioners were generally of the view that they could intervene in the event of deteriorations in the quality of services.

6. For example, GWCCG told us that, if quality were to deteriorate, it would initially raise concerns at its monthly clinical quality review meeting (CQRM) with the provider. In the event of a deterioration in quality, GWCCG would confirm the performance levels with RSC, require an action plan for improvement and timelines for addressing the issues. Where the quality concerns are significant, the subsequent CQRMs monitor compliance with the action plan. Where issues are not remedied within the agreed timeframe, the CCG has an escalation process. This involves the Director of Contracts issuing a performance notice, which requires a detailed response within a set time period. If quality does not improve within the time frames set down in the response to the performance notice, the Director of Contracts issues a breach notice, which imposes financial penalties on the provider.

7. In relation to orthopaedics services, GWCCG told us that:

> Last year, we very much were heavy-handed with the Trust about saying if you do not change, we will encourage our patients to choose an alternative provider. That could have been one of the local private providers, which could provide NHS services, or to actually steer patients towards Frimley Park because we do not believe if you do not change the way you are treating our patients is in their and our best interests.

In relation to Ophthalmology services, GWCCG told us that patient choice would have been unlikely to constrain RSC and ensure that it provided a high quality service, 'With ophthalmology, would it have changed? Probably not, not without us putting that leverage on them.'

8. In relation to trauma and orthopaedics:

> Ultimately, the lever is the stick within the standard NHS contracts and there are significant quality levers within that that are deemed centrally. We do have, as with the transfer of activity to trauma and orthopaedics from Royal Surrey to Ashford that we saw this year, the ability for our GPs and our population to go elsewhere and impact on the Trust to a level.

However, the same commissioner noted that: ‘There is a reputational issue. I think that counts far more than actually the contract levers which we manage and monitor through the CQUINs and the quality premium.’

9. NWSCCG told us that it had a number of options in the event of a deterioration in quality, including formal and informal meetings to discuss issues, contract management board meetings, system resilience groups and clinical quality review meetings. Where quality issues are significant, the commissioner has recourse to legal processes through the contractual agreements, such as issuing a Contract Query Notice in accordance with the NHS Standard Contract General Conditions Schedule 9. This could be followed by a contract management meeting, joint service investigation and the development of a Remedial Action Plan. Where the milestones of the Remedial Action Plan are not achieved, the commissioner can withhold funds from providers.

10. In relation to endoscopy services at ASP, NWSCCG told us the following:

> […] Reputation counts for a lot and they will send their patients elsewhere and patients will choose to go elsewhere. This is currently happening in, for example, endoscopy where we have problems with the Trust. With their absolute support, we are looking for alternative providers because actually they are struggling.

11. The above would suggest that commissioners have an important role in responding to falling service quality, for example by re-designing services or the patient pathway. Commissioner submissions suggest that, following intervention, the threat of financial penalties or service removal acts as a significant motivator for trusts to improve their offerings to patients.

12. However, such interventions may be limited in practice where alternative providers are limited. This could for example be in relation to complex services, whereby only full service providers (as opposed to community providers for example) can offer a realistic alternative to the incumbent provider. Furthermore, regulatory or commissioner interventions act to maintain standards and there may be scope for competition to incentivise providers to improve the quality of services beyond these standards.

13. Below, we have set out examples of actions taken by commissioners in response to falls in service quality.

Ophthalmology services at RSC

14. We considered Ophthalmology services at RSC as an example of changes to services aimed at improving the quality of services. Evidence from internal documents highlights the role of commissioners and regulation in maintaining the quality of services. The CMA considers RSC's investment in its Ophthalmology services as likely to have largely been driven by regulatory and commissioner intervention, with competition unlikely to have been an important consideration.

15. RSC told us that, following an inspection by the CQC in October 2013, it was awarded a 'good' rating overall. However, a number of concerns were raised relating to its Ophthalmology service, particularly in relation to physical infrastructure, appointment bookings and waiting times.

16. GWCCG told us that it initially raised concerns about the quality of Ophthalmology services at RSC in November 2013, at its regular CQRM with RSC. The commissioner identified a number of quality data sources that were indicating that patient experience was not satisfactory in the Eye Clinic. RSC provided some assurance that the issues regarding the Eye Clinic were being addressed, but the CCG was not satisfied with the response.

17. Thereafter, the timeline for the improvements in RSC's Ophthalmology services were as follows:

    (a) In December 2013, the CCG performed a visit with an external ophthalmologist to review the quality of care and processes in the Eye Clinic. The conclusions were shared with RSC and a report presented late January 2014.

    (b) In March 2014, the CQC visited the RSC and were satisfied with the progress being made.

    (c) RSC responded with an ophthalmology action plan which was formally approved in April 2014. The CCG was invited to attend the RSC ophthalmology steering group that had been established to improve the clinic. This was held on a monthly basis and the CCG attended a number of these meetings.

    (d) The new ophthalmology building was completed in February 2015 and a new consultant appointed. The CCG removed Ophthalmology services as a regular agenda item for CQRM, but continues to review patient experience with the services.

18. Internal RSC documents identify pressures in the Ophthalmology services prior to the CCG intervention. For example board meeting minutes from May 2012 highlighted issues in relation to the service:

> […] The meeting discussed the current service pressures in Ophthalmology, noting that there will be some restructuring of the clinical team, a review of the size of the nursing team and a number of changes have been agreed regarding space, which should be completed at the end of July/early August. These will also be reviewed as part of the site master plan. […]

19. An RSC board paper from April 2013 notes that:

20. [✂]

21. [✂]

22. [✂]

23. [✂]

24. [✂]

25. [✂]

26. RSC said it had implemented an extensive set of actions to address these concerns including:

    (a) expanding and refurbishing the infrastructure, which opened in spring 2015 and has resulted in positive feedback from patients;

    (b) hiring additional doctors to provide leadership within the department, and administration staff to provide booking and reception input; and

    (c) remodelling patient flow through the various clinic areas.

27. The aims of the business case and consequent actions were identified as follows:

    (a) Improve patient experience.

    (b) Improve the clinic environment.

    (c) Improve staffing levels to improve the timeliness of patient flow in clinic.

    (d) Improve staffing levels to embed effective administration processes.

(e) Maintain current referral numbers through excellent patient experience, potentially leading to increased referrals and market share.

(f) Deliver a profitable service.

(g) Develop a dedicated booking service – booking of ophthalmology appointments is complex and significant issues have been recognised within the current booking process.

(h) Develop a consultant-delivered service.

28. The information set out above suggests that the changes to Ophthalmology services were largely driven by regulatory and commissioner intervention, which had initially identified issues with service standards. However RSC recognised the benefits of increases in referral volumes in order to support the business case for the investments that it made.

Dermatology services at RSC

29. GWCCG told us that Dermatology services was an area where the RSC had struggled historically:

> […] dermatology three years ago had been considered poorly performing by our GPs and action was taken both by the GPs but patients not choosing to stay with those specialities, which led to us, as commissioners, re-commissioning or changing the pathways for those departments. For example, dermatology, we procured a community service as a result of that and the majority of referrals have left the Royal Surrey.
>
> […] I do not see them resurrecting a department in the hospital. That fits actually and I would say for us, as a commissioning organisation, it is quite fit and proper that the dermatology service has shifted out of hospital. In fact, as a commissioner, we would have been remiss to have continued with our model.

The above suggests that patients, GPs and commissioners responded to the falling quality in Dermatology services at RSC by seeking alternative options.

Monitoring of referral activity

30. We have considered the extent to which the Parties monitor changes to referral activity and market share, based on internal documents provided to us by the Parties. In the following sections, we consider the extent to which the Parties monitor changes in activity, revenues and quality. We then consider

whether such monitoring is related to competitive responses and whether the Parties respond to such changes in a way that is compatible with competitive interactions, such as investing in service quality in response to an identified opportunity to gain additional referral volumes.

ASP monitoring

31. [✂]

32. [✂]

33. [✂]

34. [✂]

35. [✂]

36. [✂]

37. [✂]

38. [✂]

RSC monitoring

39. RSC internal documents suggest that the trust monitored referral activity across a number of areas, albeit less extensively than ASP. The RSC documents include monthly assessments of the trust's market share. The assessments were discussed at RSC board meetings and included an assessment of the trust's performance across a number of areas (see below for further details).

Monitoring performance against other providers

40. We asked the Parties for key performance indicators that they use to measure the quality and efficiency of their services and how they were used within their organisations. These are likely to shed some light on the set of providers that the Parties consider to be closest in terms of their offerings and indicate which of these are likely to exert competitive constraints on the Parties.

41. ASP uses balanced scorecards, which are produced monthly and provide an overview of the performance to its board across the following areas:

    (a) Patient safety and quality: This measures the quality of care and effectiveness, using indicators such as mortality (for example SHMI),

hospital acquired illnesses (for example MRSA infections), complaints and satisfaction surveys (such as the FFT results).

(b) Delivering the trust's clinical strategy: This measures the trust's performance in performance indicators, such as the proportion of emergency patients seen within four hours, length of stay, re-admission rates and activity volumes. There are also measures of the share of elective activity and of certain elective specialties such as Vascular Surgery in Surrey.

(c) The trust's financial stability and efficiency: This measures the trust's performance in terms of revenues, profitability and achievement against contractual terms. Efficiency is measured in terms of theatre utilisation rates and length of stay rates.

(d) Staff satisfaction, engagement and retention rates: These include indicators on staff engagement derived from surveys, staff turnover and the proportion of temporary staff used in the hospital.

42. [✂]

43. [✂]

44. [✂]

45. [✂]

46. [✂]

47. We note that more recent marketing reports do not typically cover developments at RSC. This is likely to be as a result of the partnership agreement between ASP and RSC.[3]

48. RSC told us that it reported a range of performance indicators to its board on a monthly basis.[4] These included the following:

(a) Best outcomes: Measuring mortality rates, hospital-acquired illnesses and other avoidable harm to patients.

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[3] For example RSC in its Forward Plan document for the 2010/11 (see Annex A) period, notes that 'established networking arrangements and relationships serve to mitigate the risk of competitive challenge'.

[4] These were used as the basis for performance management at specialty and business unit levels. The specialty teams are performance managed against these metrics and if any are not meeting targets, an action plan to return to acceptable performance must be presented to the executive team. Performance against these metrics will form a part of the annual personal development review for each manager. The executive directors receive an annual performance related pay element based on their collective performance against a range of agreed metrics as decided by the remuneration committee. Response to question 18 of the Market Questionnaire.

(b) Excellent experience: Patient satisfaction rates such as through the FFT, waiting times in A&E, complaint rates and complaints handling.

(c) Skilled and motivated teams: Measuring staff satisfaction, the proportion of staff in full time positions, use of agency staff, staff appraisals and training.

(d) Top productivity: Measuring length of stay (emergency and elective), proportion of day-cases, procedure cancellations and a reference cost index.

(e) Firm foundations: Measuring referral rates from GPs and general dental practitioners, activity in a number of areas, income, profitability and margins.

49. [✂]

50. [✂]

51. The internal documents show that both ASP and RSC have processes in place for monitoring financial and quality performance. Where these are related to referral activity, both trusts have implemented plans to improve services in order to gain additional referrals and income.

Improving integration and cooperation with GPs

52. We have reviewed the internal documents for examples of investments made by the Parties in improving integration or cooperation, and market research and communication, in response to perceived competitive pressure.

53. [✂][5]

54. [✂][6]

55. [✂]

56. [✂]

57. St George's told us that, while there are restrictions to marketing that hospitals can undertake, providers consider various forms of marketing:[7]

> In very general terms, […],the NHS market does not operate in the traditional way. There are lots of rules about what you are

[5] Ibid.
[6] Ibid.
[7] Transcript of the hearing with St George's on 24 April 2015 (as amended)

> allowed to advertise and what you are not and generally speaking NHS organisations do not advertise for core services. So, the way you influence people and market is predominantly through relationship building. For instance, we had a big GP event earlier this week, "Bridging The Gap", a local service event focused on improving relationships between consultants in St George's University Hospitals NHS FT and local GPs, where we invited GPs from Merton, Wandsworth and South West Lambeth which is our DGH catchment.
>
> There was a piece about how the Emergency Department works and what they can do in terms of helping their patients navigate through that system but also what can they do to avoid those admissions in the first place. So, it is about education and relationship building. Fundamentally, that is how marketing works in the NHS.

58. St George's also told us that increasing the awareness of its services could lead to increased referrals:[8]

> […] often times if we were trying to grow that service, we would seek to influence those GPs whether it was through an educational event or something like that, whether it was just our commissioners going to talk to them. Surprisingly, the NHS can be quite insular in terms of services provided by a hospital and actually, quite often, there isn't enough awareness that a particular organisation provides a particular service. We have found that GPs may refer to us once they are aware of the services we provide.

Improving access to services

59. We have considered examples of investments in improving access to and the convenience of the Parties' services.

60. [✂]

Figure 1: [✂]

[✂]

[✂]
Note: [✂]

[8] Transcript of the hearing with St George's on 24 April 2015 (as amended)

61. [✂]

62. [✂]

63. [✂]

64. [✂]

65. [✂]

66. Third parties were generally of the view that outpatient clinics were an effective way to attract additional referrals, although the extent to which this might be in competition with other providers could vary. For example, NWSCCG said:[9]

> […] having sited outreach outpatient clinics help to extend the footprint of a hospital's catchment area. We have experience locally where Ashford St Peter's provide outpatient facilities in our Woking hospital so that patients in that area can also have a number of their outpatient consultations there and have their main in patient event in the hospital. We have also seen examples where other providers provide outpatient consultations elsewhere in the patch in order to try to slightly extend their footprint beyond their own hospital premises.

67. St George's explained that its reasons for setting up outpatient clinics had changed over time:[10]

> […] historically, there have been occasions where commissioners might have requested the provision of particular services by the hospital. Outpatient clinics are often set up (where outside of the hospital premises in Tooting) to meet identified local clinical demand for specific services to save patients from travelling long distances to specialist centres as part of a wider clinical network development. In terms of where we are now, the way we would decide to set up a service would be around what we thought the patient benefits were but also from a marketing perspective. So, it is slightly peripheral. I suspect George's approach would be more about doing that in a partnering way.

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[9] Transcript of the hearing with NWSCCG on 29 April 2015
[10] Transcript of the hearing with St George's on 24 April 2015

ASP outpatient clinics at Cobham Day Surgery

68. [✂]

69. [✂]

70. [✂]

71. [✂]

72. [✂]

Investments into improving an input or process

73. We have considered examples of investments in improving inputs or processes by the Parties in response to perceived competitive pressure. These were generally expected to lead to improvements in the quality of services, greater referral volumes and revenues.

Evidence on investments in improving an input or process in the present inquiry

74. Internal documents provided by the Parties cite examples of investments in new services or improvements of existing services. The assessment of the business case for these investments sometimes considers the impact that the investment (or potential threat from the lack of it) would have on the trust's activity levels and finances. The following sections provide examples of such actions undertaken by the Parties.

Maternity services at ASP

75. [✂]

76. NWSCCG told us that, for some services, such as maternity services, patients were choosing RSC rather than ASP. This was the case even for those patients who were more likely to be viewed as being in the ASP catchment area.

> Some of our GPs had a really interesting meeting [...] When we were talking about this we were going through all of the services in Ashford St Peter's and asking them what they thought the quality of their services were. It is interesting that in a number of those services, they say their patients currently go to Royal Surrey County because they have a better reputation for those services than Ashford St Peter's does; maternity for example.

77. [✂]

78. The internal documents and submission by NWSCCG suggest that the ASP maternity services were viewed as lower in quality than those provided by RSC and that some patients were choosing to attend RSC. This would be likely to have an impact on ASP's referral volumes and revenues, and would be expected to lead to efforts to improve the reputation of the services.

79. When asked what types of actions ASP was undertaking to try and gain some of those referrals back, NWSCCG said:

> […] They have been improving their maternity offer; they have a better accommodation for delivery now. One of their strategies is to try to improve the infrastructure so that some of those discretionary services are providing a much better offer for patients to use.[11]

80. [✂]

81. [✂]

82. [✂]

83. [✂]

84. ASP's investment in its maternity services is an example of the trust responding to a perceived lower quality service by improving its offering to patients. The investment was accompanied by marketing efforts and the internal document and the commissioner submissions show that the trust has subsequently seen increases in activity levels.

Outpatient facilities at Ashford Hospital

85. [✂]

86. [✂]

[✂]

87. [✂]

88. [✂]

[11] The hearing with North West Surrey CCG.

89. [✂]

90. [✂]

91. [✂]

92. [✂]

Private patient cancer services at RSC

93. [✂]

Review of the economic literature on competition in the NHS

Introduction

1. The NHS has gone through a number of successive reforms, starting in the early 1990s, which created the incentives for competition between providers of NHS services. Whilst these reforms have been incremental, they have also been wide-ranging and fundamentally changed the way patients interact with healthcare services. The aims of the reforms were to create a service that was more responsive to different and changing patient needs.

2. Healthcare is different from other markets, where there is a more straightforward customer and supplier relationship.

3. On the supply side, providers face a complex system of regulatory checks and balances. These range from centralised quality and financial oversight, to local governors who represent the interests of the local population. Therefore, providers make decisions about their offering to patients on the basis of a complex network of objectives and duties.

4. On the demand side, patients may face several choices when making decisions about care, including different treatment options, providers and even physicians. Each combination of choices might produce different results, for example, in relation to the patient experience of the treatment.

5. In this paper, we summarise the relevant literature on competition in the NHS. It sets out the evidence on each of the tenets of competition: patient choice, quality in the NHS, competitive responses and the interplay between each of these. Where possible, the paper sets out evidence on the magnitudes of these aspects.

Background

The functioning of healthcare markets

6. Standard models of competition rely on a number of assumptions on the way that different participants interact with one another. Healthcare markets depart

from these idealised versions of competitive interactions in a number of important ways, some of which are described below:[1]

(a) Healthcare can be an **experience good**, in that patients cannot fully assess the benefit that they could derive from healthcare services prior to the event. This is most notable in difficulties that patients face in assessing the relative quality of different providers, which has implications for their ability to choose their preferred options and ultimately for the providers' incentives to compete for referrals.

(b) Healthcare can be a **credence good**, meaning that patients have to rely on healthcare professionals in assessing the benefit of the services received, even after the event. Therefore patients generally rely on the advice of healthcare professionals, creating a system of decision-making that rests on the views of both patients and their healthcare professionals.

(c) The two factors above, coupled with the complexity of the market and the shortage of patient-friendly information, leads to significant **information asymmetries** between providers and patients. These asymmetries may result in perverse incentives for providers, without the appropriate safeguards (for example, lower cost and quality providers benefiting from competition based on price rather than quality, which may be difficult to assess).

(d) **Significant regulation** of healthcare services with respect to both price and quality. This has a number of implications, such as setting a minimum quality standard, which may create high barriers to entry particularly when coupled with costs of entry. Minimum quality standards are important in healthcare given the information asymmetries between providers and users of healthcare services.

(e) Regulation and other professional objectives might affect the extent to which providers act as **profit-maximisers**. For example, doctors might be driven by a desire to care for their patients which may or may not coincide with a profit-maximising strategy.

7. Patient choice may be inhibited in a number of ways. Patients are faced with complex information about their treatment options, which is often qualitative and open to subjective interpretation. Therefore, patients may find it difficult to make informed decisions about care and rely on simplification rules, such as delegating choice to their GPs.

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[1] King's Fund (2010), Dixon, Robertson, Appleby, Burge, Devlin and Magee, *Patient choice: how patients choose and how providers respond*. Henceforth 'King's Fund (2010)'.

NHS reforms

8. The NHS has seen a succession of reforms which have resulted in greater autonomy for healthcare providers and incentives to compete for additional revenues by increasing patient throughput.

9. The earliest reforms were in the early 1990s, which split out commissioning responsibilities from duties to provide healthcare services in England, under the NHS and Community Care Act 1990. The aim of this purchaser (commissioners) and provider (NHS trusts) split was to introduce financial discipline and constraints on providers through the purchasing entities, leading to efficiencies and increased competition between providers. Since then, the NHS has operated under a commissioner and provider system (of various forms).

10. The reforms that took place in the 2000s further developed the scope for incentives to compete among providers and these broadly fall into the following categories:[2]

    (a) new financial mechanisms such as the activity-based fixed price reimbursement system (Payment by Results);

    (b) greater devolution and independence from central control (foundation trust status);

    (c) encouragement of a more pluralistic mix of public and private provision of NHS care;

    (d) an emphasis on competitive quasi-market forces between providers; and

    (e) more formalised provision of choice of hospital for patients.

11. These reforms taken together were aimed at creating incentives for providers to become responsive to the needs of local patient populations. Patients who are empowered to make informed choices about their care would be more likely to choose providers which offered services that met their needs. Given that the system was created based on an approach of 'money following the patient', providers would be incentivised to tailor their offers around those aspects of quality that matter to patients, with the aim of generating additional revenues. The Payment by Results system was also aimed at encouraging providers to find efficiencies, by paying a (largely) fixed price per unit of treatment. This offered the scope for providers to find savings on the unit cost

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[2] King's Fund (2010), p1.

of treatment, with the resultant savings remaining in the trust to be invested in services and ultimately improve the offer to patients.

The right to patient choice

12. The NHS offers users of healthcare services in England the right to make decisions about care in a number of settings. These are enshrined in the NHS Constitution, which sets out the rights and obligations of users of NHS services.[3] The right to patient choice extends to primary care services (General Practices), specialist testing and the choice of provider for a first consultant-led outpatient appointment for elective services.

13. The NHS Constitution commits the NHS to provide patients with information to facilitate the process of making decisions about their care. The introduction of patient choice is aimed at empowering patients to make informed choices about the care they receive. Commissioners in England have a duty to involve patients or their representatives in decisions relating to 'the prevention and diagnosis of illness in the patients, or their care or treatment'.

14. Patient choice has been introduced in successive reforms starting in 2006, when patients were offered a choice of at least four hospitals for their first outpatient appointment in elective care services. Since 2008, patients have been able to choose between NHS and independent sector providers.[4]

Defining and measuring quality

15. Hospital quality is a multi-dimensional concept. Whilst there are a number of measures of quality, their reliability, usefulness and accessibility depend on the purpose of the assessment and the user of the information.

16. The literature notes that the measures for assessing the quality of healthcare services are particularly important, since these will be the focus of competitive interaction between providers. For example, several papers have noted that, following the 1991 reforms which introduced a purchaser and provider split, providers of NHS services in competitive areas reduced quality which was not monitored and increased observed quality.[5]

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[3] See the NHS Constitution and the explanatory NHS Handbook which sets out the rights and responsibilities of users of NHS services in more detail.
[4] Independent sector provision of NHS services was introduced in two waves, starting in 2003 and then in 2007, known as the Independent Sector Treatment Centre (ISCTs) programme. ISTCs are privately owned structures, but under contract to provide services to NHS patients, with prices based on the NHS tariff.
[5] OFT (2014), *Competing on quality – Literature review*. Henceforth 'OFT (2014)'.

17. A report by Lord Darzi (2008) produced a working definition of quality in healthcare for the NHS, which includes the following three dimensions:[6]

(a) Patient safety: this measure relates to minimising avoidable harm (such as hospital acquired infections) and providing a safe and clean environment.

(b) Patient experience: this relates to personal care (for example treating patients with compassion, dignity and respect). It can be improved through patient satisfaction with their own experiences.

(c) Effectiveness of care: this measures the success rates from different treatments for different conditions. Assessing this will include clinical measures such as mortality or survival rates, complication rates and measures of clinical improvement. It can also be measured through patient-reported outcome measures such as Patient Reported Outcome Measures (PROMs).

18. Studies which have considered the link between healthcare competition and quality have traditionally focused on quantifiable measures of effectiveness of care, **such as mortality rates**. As described above, hospital quality can be measured in a number of ways and hospitals might be performing well in relation to certain measures and underperforming in relation to others. For the measures to be an accurate reflection of parameters of competition in healthcare, they need to fulfil the following conditions:

(a) Accurately reflect true service quality. Issues can arise, for example, because of the collection and calculation methods. Where measures are not adjusted for the case mix of hospitals, those that deal with more complex procedures might receive lower ratings because of the higher risk profile of patients. Measures must also be collated over a sufficiently long cycle to capture the effects of changes to quality levels.

(b) Providers being able directly to influence the measure of quality (ie providers have levers to control the levels of quality). This is important in competition studies, since providers responding to competitive pressures should be able to respond using the measure of quality.

(c) The measures must matter to patients and they must make choices on the basis of these. Patients need to have access to sufficiently granular information to make decisions about their care.

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[6] OFT (2014), p126,

19. A measure of quality which could be well-placed to meet the requirements set out above are the PROMs, which have been collected by all providers of NHS-funded care since April 2009. PROMs assess the quality of care from the patient perspective, through questionnaires administered to patients undergoing four elective procedures: hip replacement, knee replacement, groin hernia and varicose veins. Patients are asked the same questions before and after treatment in order to assess the impact of the procedure on the patient's health.

Measures of quality available to patients

20. The patient choice reforms of 2006 were followed up with an increase in the information available to the public on the quality of healthcare services. The intention was to facilitate the process of patient choice and allow patients to make informed decisions about their care. The literature identifies the critical role that easily accessible and reliable information for patients plays in creating incentives to compete on quality for providers of healthcare services.[7]

21. In the NHS, patients and GPs have access to a number of information sources on the relative quality of healthcare services, such as the NHS Choices website, inspection reports carried out by the CQC and independent providers of healthcare quality comparators, such as Dr Foster. Some of these provide the information at a granular level, allowing patients to assess the relative quality of services at specialty level.

22. The literature considers that the publication of measures of quality might incentivise providers to improve quality even without the exercise of patient choice.[8] This is due to the impact that quality measures have on perceptions of providers and the subsequent reputational effects. This could arise, for example, at a micro level with hospital doctors striving to improve outcome measures for their patients. At a macro level, reputational effects might affect relationships with commissioners and the likelihood of succeeding in tenders for contracts.

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[7] See for example: Love, DE and others, (2001). *Data sharing and dissemination strategies for fostering competition in health care*.
[8] OFT (2014).

Patient choice

Patient awareness and exercise of choice

23. Following the introduction and expansion of patient choice, the Department of Health commissioned surveys to monitor the evolution of patient choice. The survey from February 2010 found that:

    (a) Around **54% of patients were aware that they had the right to choose** their hospital for the first outpatient appointment, up from 50% in March 2009 and 29% in the first survey in May 2006.

    (b) Around **49% of patients recalled being offered a choice of hospital for their first outpatient appointment**. This was an increase from around 30% in May/June 2006. It increased substantially until the beginning of 2007, then it remained stable.

    (c) There were significant **differences between patients that were aware of choice prior to their GP visit** and those that were not, as to whether they were offered choice. Around 63% of patients that were aware were offered choice, whereas only 32% of the latter group recalled being offered a choice of provider.

    (d) Patients were **generally able to receive treatment at their hospital of choice** (around 67%). This was particularly the case for patients who were offered choice, with around 88% suggesting that they were able to go to their preferred provider.

24. The extent and awareness of patient choice **varies significantly between geographical areas**.[9] This is because on the demand side, patient awareness of their right to choice depends, among other factors, on the extent to which commissioners actively promote and encourage patient choice. On the supply side, the patient's ability to choose between different providers is intrinsically linked to the set of credible alternatives in the local area. For example patients who are faced with a number of credible alternatives, with good transport links to each of them, are more likely to take advantage of their right to choice of provider than patients who have more limited alternatives.

25. Additionally, patient awareness and exercise of choice may be affected by the intensity with which commissioners and providers support patient choice.[10] In the February 2010 King's Fund paper, the proportion of patients who were

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[9] King's Fund (2010).
[10] Commissioners can, for example, incentivise the use of the Choose and Book system which enables patients and GPs to choose their preferred treatment options.

aware of choice prior to visiting their GP varied between 39 and 61%.[11] Other factors which were linked to higher awareness were age (older patients were more likely to interact with health services) and education. Therefore, the demographic composition of the local health economy is also likely to be important. The survey found that the number of options discussed with patients varied, with **around 50% of patients being offered two choices and a similar proportion offered between three and five options**.

26. The Competition Commission (**CC**) carried out a survey of patients and GPs in its inquiry into the proposed merger between Bournemouth and Poole Hospitals.[12] The patient survey results on patient choice were broadly similar to the Department of Health and King's Fund surveys, with **around 50% of patients reporting being aware of patient choice prior to visiting the GP**.[13]

The role of GPs in patient choice

27. GPs have an important role in the process, as gatekeepers of patient choice, and their views are important to understanding the extent of patient choice. Responses to the King's Fund survey suggested that the large majority of patients were offered choice by the GP, either at the time of the appointment (60%) or in a follow-up letter (21%).[14]

28. GPs responding to the survey in the King's Fund paper were generally supportive of the principle of patient choice. However a large share thought that patients were generally ill-informed about their right to choice and their treatment options, until the GP discussed it with the patient.[15]

29. Furthermore, GPs interviewed in relation to the King's Fund paper thought that patients did not value making the choice as much as patient surveys suggest. That is when asked about the importance of choice, patients would report significant interest but, when faced with the choice, they would typically delegate the responsibility to their GP. A large proportion of patients would have a strong preference for the local provider and would query the relevance of options located further away.[16]

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[11] King's Fund (2010), p30.
[12] CC, *The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust/Poole Hospital NHS Foundation Trust: A report on the anticipated merger of The Royal Bournemouth and Christchurch Hospitals NHS Foundation Trust and Poole Hospital NHS Foundation Trust*. Henceforth 'Bournemouth and Poole (2013)'.
[13] Bournemouth and Poole (2013), Appendix I, p21.
[14] King's Fund, p49.
[15] King's Fund, p29.
[16] King's Fund, p33.

30. GP surveys suggest that they are generally sceptical of published information on the quality of services and would combine such data with 'soft knowledge' about the quality of services, for example obtained through discussions with colleagues or patients following treatment.[17]

31. Collyer (2011) found that, where GPs have a strong preference towards a particular provider (because they send a significant proportion of referrals to that provider), this increases the likelihood of the patient being referred to that provider.[18] This means that GPs still play an important role in patient choice and that GPs have preferences for particular providers which may or may not be aligned with patient preferences.

32. In the paper by the King's Fund (2010), GPs viewed location and the convenience of different providers as the most important factors to patients. However, typical responses by patients suggest that quality factors are much more important than relative convenience. One explanatory factor for this disparity might be that GPs have greater awareness and trust in providers to whom they refer frequently, meaning they are more likely to be located closer to the practice.

33. The survey in relation to the inquiry into the merger between Bournemouth and Poole Hospitals (2013) suggested that around 60% of GPs discussed patient choice with their patients and that a significant proportion (72%) of patients had a good idea of where they preferred to receive treatment.[19]

Factors important to patients

The importance of location

34. Patient surveys have frequently identified the importance that patients place on the relative convenience of providers in their choice of where they receive treatment (for example, in the Department of Health survey, 38% of respondents said that distance of the provider from home or work was the most important factor).[20] This is particularly the case when patients were asked to state the most important factor in their choice of provider for their last experience of a healthcare treatment. This differs from responses to option-based questions where patients are asked to rank the importance of different

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[17] King's Fund (2010), p21.
[18] Beckert, Christensen and Collyer (2011)), *Choice of NHS-funded hospital services in England*. Henceforth 'Collyer (2011)'.
[19] Bournemouth and Poole (2013), Appendix I.
[20] Department of Health (2010), *Report on the National Patient Choice Survey – February 2010, England*. Henceforth 'DH survey (2010)'.

factors in their choice and rank quality aspects higher than the convenience of travelling to the hospital.

35. **Location of services might also be viewed as one aspect of quality** that patients assess when making decisions about where they receive their treatment. When there is a change in one of these factors for one of the providers, for those patients making a choice about their treatment, the overall benefit of attending that provider would have changed. If this change is significant, then their ranking of alternative providers might have also changed.

36. The King's Fund survey found that, whilst the majority of patients attended the nearest hospital, patients exercising choice were more likely to bypass the local trust and receive treatment at a provider located further away. In the survey, **69% of those offered choice were attending the nearest hospital, whereas 76% of those not offered choice** were doing so.

37. The survey was also used to carry out a discrete choice experiment and to estimate the average trade-off that patients would be willing to make between quality and distance.[21] On the basis of these, the quality of the environment, infection control rates and waiting times for cancer treatment were valued highly. For example, patients would on average be willing to travel a further 12 miles for a one point reduction in the proportion of infections per 1,000 bed days.[22]

38. The CC, in the Bournemouth and Poole merger inquiry, considered the extent to which patients received treatment at the nearest hospital which could offer the necessary treatment. **Around 81% of elective referral patients chose to attend their nearest hospital**.[23] Some variation existed between specialties, with patients in paediatric medical oncology or nephrology attaching less weight to proximity to the provider. The CC further tested whether location was the only driver of patient choices, by considering referrals at equidistant GP practices to Bournemouth and Poole Hospitals. This analysis suggested that referral patterns at such practices fluctuated over time and **other factors affected choices** (such as relative changes to quality).

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[21] Discrete choice experiments ask respondents to choose between different options, each with different quality factors. Statistical models are then used to estimate the importance that each factors plays in the respondent's choice, by comparing how choices vary with variations in the levels of different factors.
[22] King's Fund, pp80–81. This is significant since the hospitals in the sample had infection rates of between 0.19 and 1.56 per 1,000 bed days.
[23] This was for specialties where at least two of the providers in the area offered the treatment.

Other factors important to patients

39. One of the aims of the choice framework was the introduction of incentives for providers to improve the quality of services, in aspects which matter to patients.

40. In the Department of Health survey factors other than location considered important were personal experience of the services and waiting times (see Table 1).

Table 1: Most important factors to patients from Department of Health survey

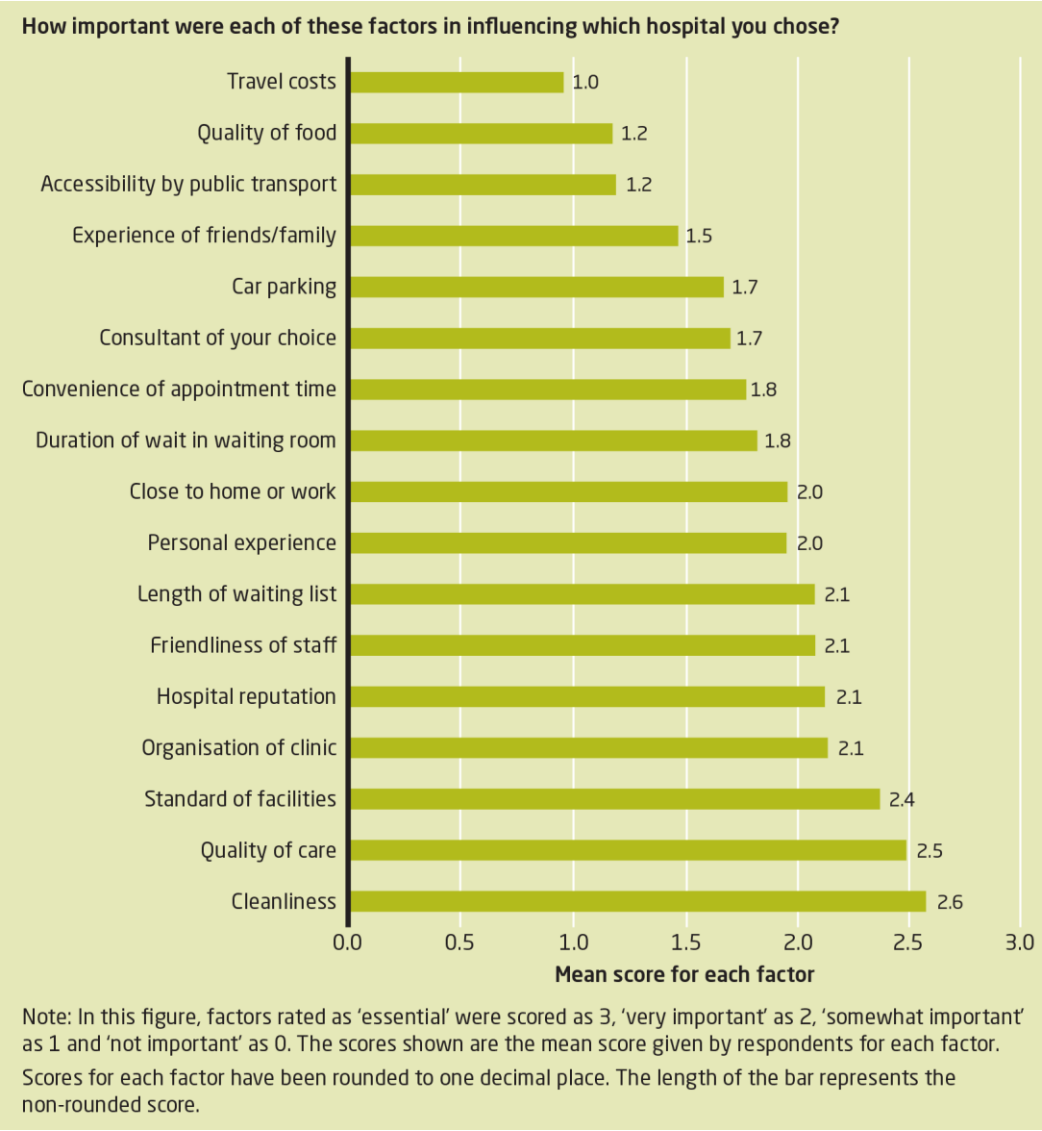
*Most important factors listed**	*Number of patients*	*Responses (%)*
Close to your home or work	12,410	38
Personal experience of the hospital	3,874	12
Length of wait for appointment	3,120	10
Good previous experience	1,835	6
Accessible on public transport/travel costs	1,696	5
Quality of care	1,594	5
Reputation of hospital	1,390	4
GP/assessment centre doctor recommendation	1,257	4
Experience of friends or family members	924	3
Availability of car parking	812	2
Ability to see consultant of your choice	775	2
Convenience of appointment time	712	2
Cleanliness/rates of infection	671	2
Friendliness of staff	344	1
Cost of car parking	209	1
Standard of facilities	143	0
Quality of food	24	0
Don't know	358	1
Not stated	407	1
Total†	32,554	100

Source: Department of Health.
*Patients who said they had been offered choice were asked to select the single most important factor when they chose their hospital. This is not directly comparable with earlier surveys, where all patients were invited to select as many factors as they felt were most important in choosing a hospital.
†Total excludes 970 (3%) responses for patients sent the previous survey form (see Annex B of DH survey (2010)).

41. King's Fund (2010) asked patients and GPs to rate different factors in order of importance (see Figure 1 below). Respondents suggested that cleanliness, standard of care and the facilities were the most important factors on average. Closeness to home or work were somewhat important but were ranked eighth in order of importance to patients. The extent to which convenience mattered to patients differed significantly, with those who depended on public transport (such as in urban areas) being more likely to rate convenience of transport more highly than those with access to private transport. Furthermore, patients were more likely to rank closeness as the most important factor when they were asked for the basis for making the current choice of hospital rather than being asked generally about the factors that mattered to them.[24]

[24] The literature suggests that when patients are asked prompted questions (offering options) then patients are more likely to select aspects related to quality, whereas in unprompted questions they are more likely to suggest location as the most important factor. See the King's Fund paper.

Figure 1: Most important factors from the King's Fund (2010) survey

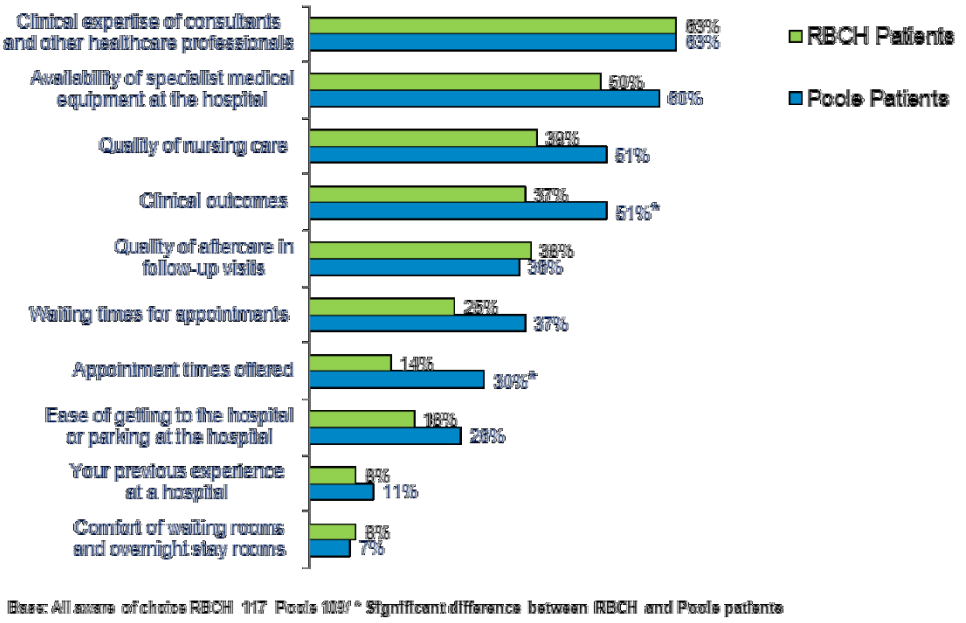


Source: King's Fund (2010), Figure 16.

42. The CC asked patients to attach weights to the importance of different aspects of services.[25] The results are shown below and indicate that perceived quality of services is very important to patient choices.

[25] Bournemouth and Poole (2013).

Figure 2: Most important aspects to patients from Bournemouth and Poole (2013)



Source: CC in Bournemouth and Poole (2013), Appendix I, Figure 19.

Patient responses to choice reforms

43. Prior to the patient choice reforms of the mid 2000s, patients would have typically been referred to the nearest provider that offered the relevant treatment.[26] Following the expansion of choice, initially to a minimum of four providers and then to any recognised provider, the location and distance to providers would be expected to have become less important to the destinations of patients, particularly where there are significant differences in the quality of services offered by the nearest provider and the next best alternative.

44. A report by Nuffield and the Institute for Fiscal Studies considered the evolution of referral patterns over time, using HES data.[27,28] The report used outpatient data relating to orthopaedics and trauma, gastroenterology and ophthalmology referrals, which accounted for over a quarter of elective outpatient referrals.[29] As a starting point, the report found that, in the five financial years between 2005 and 2011, **patients were on average travelling slightly further and the proportion of patients attending the nearest hospital had decreased** over the period. For example, the

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[26] OFT (2014), *Competing on Quality: Literature Review*.
[27] HES data contains details of all admissions, outpatient appointments and A&E attendances at NHS hospitals in England. Observations are at the episode level (a period of care under a single consultant).
[28] Nuffield Trust and IFS (2012), *Choosing the place of care: The effect of patient choice on treatment location in England, 2003–2011*.
[29] The authors obtained similar results using inpatient data.

proportion of patients attending their nearest hospital in orthopaedics and trauma had fallen from around 68% to around 59%.

45. The report found that there had been a moderate shift away from patients attending the nearest hospital towards independent sector treatment centres (ISTCs). ISCTs were introduced in the early 2000s to increase capacity in response to increasing waiting times. Therefore, it is difficult to disentangle the effects of the increase in capacity from patient choices about the relative quality of care at the different providers.[30]

46. The research also found that the reforms had led to an increase in the number of providers to which GP practices referred. Between 2005 and 2011, the **average number of providers had increased from 12 to 18**. Again the authors argue that this could be largely driven by the proliferation of ISTCs. The report also found that the average Herfindahl-Hirschman Index (HHI) by GP practice had fallen from 0.71 to 0.61.[31] The authors found that, although the introduction of ISCTs was a significant factor in the increased dispersion of GP referrals, it was not the only factor. Excluding ISTCs from the analysis still produced an increase in the number of patients referred to providers at the GP practice level.

47. Gaynor (2012) found that a one standard deviation increase in the mortality rate was associated with a 4.9% decrease in market share for the hospital after the reforms on patient choice. This compared with an equivalent figure prior to the reforms of around 0.36%.

Patient responsiveness to quality

48. Prior to the reforms of 2006 which afforded patients choices over where they received treatment, these choices were delegated to the responsible GP. Although the extent to which GP choices were driven by the consideration of patient preferences has not been considered in detail, the literature suggests that GPs were widely referring patients to the local providers, without considering other options available to patients. Therefore, responses to relative changes in quality would have been muted and unlikely to reflect patient preferences.

49. Following the reforms, patients had the opportunity to make choices about care based on their preferences and trading off different factors in each provider's offer.

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[30] Nuffield Trust, p14.
[31] The HHI was calculated as the sum of the squares of the shares of referrals of providers at the GP practice level. Therefore it is a measure of 'multi-sourcing' by GP practices.

50. A paper by Gaynor[32] considered the extent to which measures of quality affected patient choices. The authors used data from coronary artery bypass graft procedures (CABG) to model patient demand in relation to a range of factors such as waiting times, outcomes and location.[33] They found that **following the reforms around patient choice, patients became on average less responsive to travel distances and more responsive to mortality rates** (compared with the period prior to the reforms). The authors took this to suggest that the reforms resulted in more informed patient choices about the quality of care.

51. Another paper, which considered the impact of location and waiting times for cataract operations, found that, in the pre-reform period, travel times had a stronger impact on GP choices than waiting times.[34]

52. A follow-up paper by Gaynor estimated the elasticity of patient demand with respect to reductions in quality.[35,36] An increase of around 1.11 in the mortality rate was associated with a 3% reduction in patient demand pre-reforms, whereas, the equivalent figure post-reforms was around 7%. The authors estimate that ten lives are saved annually from the introduction of patient choice reforms.[37,38]

53. Another paper, co-authored by Kate Collyer, examined patient choices for hip replacement surgery during the 2008/09 financial year.[39] The paper found that distance was important to patients, especially to certain groups, such as older patients and those living in rural areas. Several aspects of quality were associated with making it more likely that patients would choose providers, such as lower waiting times, lower infection rates, lower mortality rates and higher CQC ratings.

54. In relation to the Bournemouth/Poole inquiry, the CC conducted a survey of patients and GPs in Dorset, to understand the extent of patient choice and whether differences in quality drove choices.

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[32] Gaynor et al (2010), *The effect of patient choice: Evidence from recent NHS reforms*.
[33] About 25% of all CABGs are performed as part of an emergency treatment and are excluded from the main analysis.
[34] Sivey (2010), *The effect of waiting time and distance on hospital choice for English cataract patients*.
[35] Gaynor, Propper and Seiler (2012, *Free to choose? Reform and demand response in the English National Health Service*.
[36] This is the percentage reduction in patient referrals associated with a one percentage point reduction in the quality of services. The latter was measured as a one standard deviation in the mortality rate, which means an increase in the mortality rate of around 1.11 percentage points.
[37] This is through the sorting of patients into more effective providers, thus leading to reduced death rates.
[38] The authors estimate the monetary value of the improved survival rates. Using a $100,000 benchmark of Cutler and McClellan (2001) for the value of a year of life, and assume that CABG survivors' lives are extended by 17 years (van Domburg, Kappetein, and Bogers 2009), the beneficial effects of the pro-competition reforms are about $17 million yearly in terms of value of life-years saved.
[39] Beckert, Christensen and Collyer (2011), *Choice of NHS-funded hospital services in England*.

55. The results were as follows:

(a) If waiting times were to increase by 10% at Bournemouth Hospital, 26% of its patients said that they would switch hospital, which implied an (own) waiting time elasticity of 2.6.

(b) If waiting times were to increase by 10% at Poole Hospital, 24% of its patients said that they would switch hospital, which implied an (own) waiting time elasticity of 2.4.

56. If waiting times were to increase by two weeks (regardless of original waiting time), the results indicated that 48% of Bournemouth patients would switch hospital; and 47% of Poole patients would switch hospital. However, these figures are likely to overstate the extent of switching in the event of increases to waiting times, because actual behaviour might be different from that indicated in responses to hypothetical scenario.

57. The parties to the proposed merger between Bournemouth and Poole made submissions on the effects on GP referral patterns of *(a)* several outbreaks of norovirus in Royal Bournemouth and Christchurch Hospital (RBCH), and *(b)* RBCH's recall of a number of patients to its breast screening clinic. Following both these events, there was no discernible effect on referral patterns, which the parties argued suggested that patients were not responsive to quality. The CC noted that this lack of response could be for a number of reasons, such as the outbreaks being seen to be temporary.

58. Patients' responsiveness to changes in quality might be limited. For example, a case study of Peterborough Hospital found that, when waiting times had increased significantly at the hospital, a large share of patients waiting over six months to see their doctor had switched to alternative providers. However, a significant minority had stayed loyal to the hospital and instead waited indefinitely to be seen at Peterborough. This suggests that some patients may not be responsive to relative changes in the quality of services. This could be because of loyalty to the local provider, the limited set of alternatives (and their relative quality) or because of other factors. Qualitative research suggests that patients who expect multiple visits and older people might regard the location of alternatives as a more important factor than other patient groups.[40]

[40] Is the treatment working? Progress with the NHS system reform programme, p38,

Competition and quality

Theoretical models of competition in healthcare

59. The literature in the field of healthcare competition considers a number of models to test the role of competition in driving improvements in the quality of services. A baseline model is one which was discussed prior to the introduction of patient choice reforms.[41] This assumed that hospitals are profit-maximisers, prices are regulated and providers compete by setting the level of (one-dimensional) quality. These models predict that **hospital quality is increasing with increased levels competition and the patients' responsiveness to changes in quality**.[42] The results depend on the profitability of additional patients in equilibrium, meaning incentives to compete depend on appropriate reimbursement for services. A paper by Gravelle extended the profitability arguments, noting that, given that PbR is related to average costs of provision, marginal profits are highest for services with larger fixed costs (and lower marginal costs).[43]

60. A follow-up paper by Gaynor extended the aforementioned model by introducing the prospect of two types of patients, one with choice (elective) and one without (non-elective).[44] Where providers cannot discriminate between the two, there are important spillover effects from the incentives to compete for elective referrals. On this basis reductions in competition might also reduce incentives to maintain quality of non-elective services, despite the lack of a direct mechanism from patient choices.

61. The same paper considered the implications of hospitals having other objectives; that is allowing for the potential for hospital behaviour to depart from profit-maximising strategies. Hospital decisions might be driven by other considerations, such as maximising social utility. The result of this model is that the equilibrium outcomes associated with higher quality (than is the case without the additional objectives), but the link between competition and quality remains.

62. However, these conclusions have not been universally accepted. Brekke and others (2011) found that the relationship between competition and quality is ambiguous, where hospitals have altruistic[45] objectives.[46] While a move from monopoly to competition produces clear benefits for both marginal and infra-

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[41] See, for example, Gaynor, M (2006), *What do we know about competition and quality in health care markets?*
[42] OFT (2014).
[43] OFT (2014), p139.
[44] Gaynor, M and Town, RJ (2012), *Competition in the Health Care Markets*.
[45] These are motives that might matter to providers but are not captured through the financial incentives.
[46] Brekke, KR, Siciliani, L and Straume, OR (2011), *Hospital Competition and Quality with Regulated Prices*.

marginal patients, the results for gradual increases in competition depend on the level of altruism. On this basis, the introduction of altruistic motives, reduces the scope for competition to be a driver for improvements in quality, since quality might be at higher levels than the equilibrium levels expected from profit-maximisers.

Competitive interactions between providers

63. The King's Fund paper found that most hospitals operated in a defined geographical market and that their main competitors were neighbouring NHS hospitals. It found that, generally, hospitals competed for patients directly only at the boundaries of their catchment areas, where another hospital was equidistant. The authors found that GP referral patterns were to be fairly stable and that little attention was paid to quality. The paper concluded that competition did not lead to improvements in the quality of services directly, but rather through the effects of changes in quality on reputation, motivating hospitals to manage the level of quality of services. The paper also found that most hospitals focused on retaining patients rather than expanding into new markets or new areas.

64. However, the paper noted that providers monitored developments in GP referral patterns. Furthermore, survey responses suggested that providers considering investments to improve the quality and reputation of services, were also conscious that such improvements could enable them to gain additional referrals, through patients having a positive experience and returning or recommending the provider concerned to others.

65. A study by the Co-operation and Competition Panel (CCP)[47] sought to explain the mechanisms through which competition in the NHS could lead to improvements in quality. It drew on insights from a review of board and strategy documents of a large number of NHS hospitals. The CCP found examples of hospitals responding to competitive incentives by:

    (a) innovating and investing to improve the quality of their services and the patient experience more generally, such as reducing waiting times, increasing capacity utilisation rates, improving infection control processes, and higher achievement against indicators that measure quality of performance;

[47] CCP (2012), *CCP working paper 5: Inside the black box: How competition between hospitals improves the quality and integration of services*.

(b) improving services through investment in integration and cooperation with GPs;

(c) improved inputs and processes;

(d) better patient and GP access to services; and

(e) market research and communication strategies, such as a proactive GP engagement strategy.

66. The CC, in its review of the proposed merger between Bournemouth and Poole, reviewed marketing and internal documents for evidence of competitive interactions in relation to quality. The CC found evidence of marketing efforts, such as GP newsletters, to promote the referral of patients on the basis of quality and services available. It also found that the parties monitored a number of quality measures, although it was not possible to separate those that were monitored for competition purposes from those that were monitored for other reasons (for example, regulatory considerations). The CC also found examples of improvements to services in order to attract referrals, which is consistent with the economic literature.

Measuring the effect of competition on quality

67. Cooper et al (2011) investigated the link between competition and quality in the NHS.[48] The research compared outcomes before and after the introduction of choice according to whether these were located in competitive areas. The authors measured the effect on quality by looking at changes in 30-day mortality rates for patients diagnosed with acute myocardial infarction (AMI).[49]

68. The authors found that competition had a significant effect on mortality rates, with hospitals in more competitive areas having improved outcomes more effectively than in other areas. They found that the shift from a market with two equally sized providers to one with four equally sized providers after the reforms would have resulted in a 0.39 percentage point faster reduction in AMI mortality per year from 2006 onwards. They estimated that the 2006 reforms resulted in approximately 300 fewer AMI deaths per year.

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[48] Cooper, Gibbons, Jones and McGuire, 'Does hospital competition save lives? Evidence from the English NHS patient choice reforms', *The Economic Journal*, 121, August 2011.
[49] This indicator is often used in academic literature because it is easily clinically identifiable, is not subject to gaming or manipulation and for patients there is a clear link between appropriate treatment and good outcomes.

69. A 2010 paper by Gaynor[50] found similar results to the research by Cooper. The authors found that a 10% fall in the HHI is associated with a fall in the 30-day death rate following AMI admissions by 2.91%, implying approximately 1,000 fewer total deaths per year at all 135 hospitals in their sample. They also found that greater concentration is associated with a longer patient stay in hospital, a common measure of efficiency.

70. Gravelle (2013) considers the impact of changes to quality on the offering of competing hospitals.[51] The authors used data for English hospitals in 2009/10, a model with fixed prices and considered 16 quality measures including mortality rates, readmission, revision and redo rates and three patient reported indicators. They found that a hospital's quality is positively associated with the quality of its rivals for seven out of the 16 quality measures and that in no case was there a negative association. In those cases where there was a positive association, an increase in rivals' quality by 10% increases a hospital's quality by 1.7% to 2.9%.

71. In the 2012 paper by Gaynor and others, the authors modelled the impact of increased competition on quality, by regressing case-mix adjusted mortality rates for coronary artery bypass graft (CABG) procedures on their estimates of the changes to the aggregate elasticities of demand with respect to quality from the patient choice reforms.[52,53] The authors found that hospitals at which demand became more responsive to quality improved quality disproportionately more than other hospitals. A shift of one standard deviation in the elasticity was associated with a drop 0.7% in the mortality rate. The average case-mix adjusted mortality rate for CABG procedures was around 1.5% over the period, implying that changes to the elasticities of demand had a significant impact on patient outcomes.

72. Monitor investigated the impact of increased choice in relation to adult hearing services, publishing its findings in early 2015.[54,55] Monitor found that the introduction of choice led to an increase in treatment options, faster treatment times and more flexible treatments. This included improvements in access to services for patients. The majority of patients said that they valued choice, in

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[50] Gaynor, M, Moreno-Serra, R and Propper, C, 'Death by Market Power Reform, Competition and Patient Outcomes in the National Health Service', working paper no. 10/242, July 2010 (updated August 2011), Centre for Market and Public Organisation.
[51] Gravelle, H, Santos, R and Siciliani, L (2013), *Does a hospital's quality depend on the quality of other hospitals? A spatial econometrics approach to investigating hospital quality competition*.
[52] The change in the elasticity is a measure of the change in patient responsiveness to differences in quality between providers.
[53] This specification tests whether quality (lower mortality) is associated with more competitive areas (higher elasticities of demand).
[54] From 2012 patients requiring such services were offered the choice of receiving services at ISTCs rather than the traditional model of delivery in hospitals.
[55] Monitor (2015), *NHS adult hearing services in England: exploring how choice is working for patients*.

particular because it allowed them to receive a service that was tailored to their needs and provided them with greater control over their treatment. Furthermore, in areas where there was choice, commissioners had often put in place more robust or higher service specifications that raised expectations of providers. In some cases, commissioners had also established locally determined prices that were 20 to 25% lower than the national non-mandated tariff.

73. Bloom (2010), measured the impact of competition on hospital management quality and the resultant improvements in the quality of services.[56] The authors used political marginality of an area as an indication of the degree of competition in that area.[57] They then tested whether higher competition (within a 30-kilometre radius) was associated with greater management effort and increased service efficiency and quality (measured as length of stay and mortality rates for emergency admissions for surgery and acute myocardial infarction).[58] The results show that the presence of one more hospital in the neighbourhood reduced death rates by 1.5 percentage points (or around 10%), length of stay by 0.2 days (or around 12%) and activity increased by 0.06 consultant episodes per patient stay (around 5%).

Competition and efficiency

74. A 2012 paper found that competition could also lead to improvements in efficiency.[59,60] The authors found that hospitals shortened patients' length of stay without compromising patient outcomes or because patients were healthier, wealthier or younger. The research has, however, been criticised for selecting a non-elective procedure (since such procedures typically relate to emergency procedures and therefore cannot directly explain the link between competition and quality). The authors addressed these criticisms by noting that competition has hospital-wide effects on the quality of services.

75. Studies of the link between competition and efficiency in the NHS have generally concluded that it is difficult to discern the impact that greater patient

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[56] Nicholas Bloom et al (2010), *The Impact of Competition on Management Quality: Evidence from Public Hospitals*.
[57] The authors used the measure of the size of the majority vote for the incumbent party as a measure of the marginality (ie safety) of the constituency seat. The more marginal is the seat, the less likely are hospital closures and as such the greater the extent of competition.
[58] Management effort levels are measured for a number of hospitals through 18 questions on the following areas: operations and monitoring (6 questions), targets (5 questions) and incentives, management (7 questions).
[59] CEP (2012), *Does Competition Improve Public Hospitals' Efficiency? Evidence from a Quasi-Experiment in the English National Health Service*.
[60] Efficiency was measured using hospitals' average length of stay for patients undergoing elective hip replacement.

choice and competition have had on the efficiency of providers.[61] This is because the NHS has been subject to a number of initiatives, such as inbuilt tariff deflator assumptions, which require providers to achieve an annual reduction in the per unit cost of delivering care to improve efficiency.

Scale and quality

76. A number of research papers have considered the link between scale and quality. These papers assessed the extent to which there are arguments for consolidating healthcare services (for example through mergers) and the specialty areas where improvements through consolidation might exist.

77. A paper by the CCP examined the literature on the link between scale and quality.[62] The CCP paper found the following:

    (a) The general consensus is that higher procedure volume leads to superior outcomes. However, in many cases there is a lack of evidence to support this general consensus. This makes the volume/outcome relationship unclear.

    (b) There is very little evidence on the cut-off point for the optimum scale.

    (c) The literature does not explain how improvements arise. Therefore it is not clear whether the higher volumes cause improvements or are simply correlated with them.

78. A paper by the Centre for Health Economics at the University of York considered the evidence for accident and emergency (A&E) configuration recommendations.[63] The research focused on guidance from the various Royal Colleges and other relevant associations and medical organisations in relation to the provision of A&E services. Its aim was to consider the evidence regarding economies of scale or scope (co-location of services) in A&E services. The researchers found that the guidelines reviewed contained very little evidence to support the recommendations regarding economies of scale or scope. Where such evidence existed, it was in the form of references to other reports or recommendations made by other healthcare bodies.

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[61] See, for example, Fotaki (2014), *What market-based patient choice can't do for the NHS: The theory and evidence of how choice works in health care*, p8,
[62] CCP and York Health Economics Consortium, Impact of hospital treatment volumes on patient outcomes, available here: *Effective Health Care*.
[63] Centre for Health Economics (2011), *Review of Evidence on What Drives Economies of Scope and Scale in the Provision of NHS Services, Focusing on A&E and Associated Hospital Services*.

79. The WHO also considered the link between treatment volumes and outcomes.[64] The WHO noted that there was general consensus that there is a (positive) link between volumes and quality. The underlying theory was that outcomes improved because of more consultant experience, the supporting team or the availability of supporting services. Several studies had initially found a positive relationship between volume and quality but, once aspects such as the case mix were accounted for, the link reduced or disappeared.

80. The WHO also found that where there was evidence of a link between treatment volumes and quality, these tended to be exhausted at fairly low volumes. For example, it noted that there is evidence to suggest that CABG outcomes are improved in hospitals performing a minimum of 200 procedures annually. Putting this into perspective, less than 0.04% of these procedures in England were carried out in hospitals below the threshold.

Scale and efficiency

81. The WHO published a paper which looked at the link between scale and efficiency.[65] The paper reviewed international literature on the existence of economies of scale in hospitals. The authors found that quantitative studies broadly concluded that average costs were constant or that there were diseconomies of scale. Where there was evidence of falling costs, that is economies of scale, these were exhausted at relatively small scale (around 100–200 bed hospitals). The optimum scale of a hospital was around 200 beds and hospitals with over 600 beds facing potential diseconomies of scale. The minimum scale level (200 beds) is based on the estimate of required assets and services to operate a hospital provider.

82. A report by Monitor (2014) considered the link between the scale of providers and their financial viability.[66] Monitor used financial results to assess whether there were economies of scale in the provision of hospital services, meaning that smaller providers would be disadvantaged by a system whereby payments are generally calculated on the basis of average costs of provision.

83. Monitor found some evidence to suggest that size affected financial performance (when measured by EBITDA). This was particularly the case in the most recent year for the period covered by the report, the 2013/14 financial year. However, the size of the provider only explained a small part of the variation in the financial performance of providers. Other factors were more important in explaining financial performance, such as the amount of PbR work

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[64] WHO (2002), *Hospitals in a changing Europe*.
[65] WHO (2002).
[66] Monitor (2014), *Facing the future: Smaller acute providers*.

undertaken. Other factors which could not be measured were likely also to have been important, such as the quality of the management and the overall health economy.

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Profitability

Introduction

1. This appendix sets out our analysis of the profitability of the Parties' services.

2. Our analysis of the Parties' profitability was intended to help us form a view on *(a)* the extent to which the Parties have a financial incentive to attract additional patients to their hospitals, and *(b)* the degree to which we expect the Parties to compete with each other and with other providers. Our findings are extrapolated from the Parties' data. We note that the Parties do not assess the data precisely as we have done in our analysis.

3. The Parties told us about the role that analysis of service line profitability played in their decision-making. They told us that such analysis contributed to the Parties' thinking on investment decisions, but that it was not a deciding factor. The Parties also told us that they looked more closely at service line profitability in the context of decisions about major investments compared with day-to-day management decisions.

4. ASP showed us internal documents relating to particular business cases. Some of these documents included an analysis of the profitability of the relevant service and drew on the service line reporting (SLR) data that we used in our analysis of profitability. Examples are documents in relation to the business cases for replacing *(a)* an Upper Gastrointestinal/Bariatric surgeon, *(b)* a Colorectal Surgeon, both from 2014. As for RSC, we were told that since 2012/13 RSC has not had the capacity to generate service line profitability figures.

Methodology

5. We analysed the costs and revenues of ASP and RSC, distinguishing between outpatients, day-cases and elective and non-elective inpatients and, in relation to each of these, examining the breakdown by specialty level.

6. Our analysis was based on the SLR data which each of the Parties provided to us. This data shows the costs and revenues allocated to the patient level. The data for ASP is for 2013/14. The data for RSC is for 2012/13, the most recent year for which RSC has SLR data. We divided costs into fixed, semi-fixed and variable categories.

7. We assessed whether it is profitable for the Parties to attract additional patients. By profitable we mean that payments received exceed the incremental costs of treating a patient. We examined this by calculating the margin earned by each Party on a marginal patient across service lines. We considered a margin defined in terms of variable costs alone, which can be viewed as the margin from a small change in the number of patients treated, and one defined in terms of variable and semi-fixed costs, which can be viewed as the margin from a substantial change in the number of patients treated.

Mapping service lines

8. We distinguished between a number of services: A&E attendances, non-elective inpatient, maternity, elective inpatient, outpatient and day-cases. This required mapping from the Point of Delivery (POD) groups used by the Parties into the categories of interest to us.

9. In some instances, the mapping is straightforward. For example, we mapped the services reported by ASP under the POD group 'AE' as A&E attendances. In other cases, the services included within a POD group cover both elective and non-elective services. We consider that this is the case, for example, in relation to the activities classified by RSC as 'Critical Care'. We set out in the Annex information on the mapping we used for the purpose of our analysis.

Selecting relevant costs

10. The Parties' data allocates costs to three separate categories: fixed, semi-fixed and variable costs. The Parties referred us to the clinical costing standards of the Healthcare Financial Management Association (HFMA), which sets out the following description of this categorisation:[1]

    (a) Fixed costs will not change as activity changes over a 12-month period. Fixed costs are absorbed across the patients treated in a period and therefore the amount absorbed per patient will change as volumes of patients flex through the year. Fixed costs may also change if a contracted service is removed or added – therefore fixed costs are not just time-defined. Fixed costs include, for example, financing costs, amortisation and depreciation, rates, rent, salaries of chief executive, chairman and directors, vehicle maintenance and utilities.

[1] HFMA (2015), *Acute clinical costing standard, 2015/16*, p35.

(b) Semi-fixed costs do not move as activity changes by a small amount, but 'jump' or 'step up' when a certain threshold is reached. Defining the threshold, and the materiality of the step change, is at the discretion of individual organisations. Semi-fixed costs include salaries of senior managers and of medical, nursing and support staff (other than agency staff), computer network costs, lease rents, laboratory equipment and maintenance and cleaning equipment.

(c) Variable costs will be directly affected by the number of patients treated or seen. They are incremental or marginal costs. One more unit of activity will generate an extra cost. It is important to note that the nature of patient-level costing means that this cost may differ from patient to patient, but that it is triggered by the quantity of patients. Variable costs include agency staff costs, dressings, drugs, implants and materials.

11. We drew on this breakdown of costs to assess whether attracting additional patients would be profitable. By profitable we mean that the payment received for treatment exceeded the different types of incremental cost of treating the patients concerned. In other words, the payment made a contribution to overheads. Accordingly, we focused on the following two margins:

(a) variable margin – calculated as the difference between income and variable costs, expressed as a ratio of income; and

(b) semi-variable margin – calculated as the difference between income and the sum of semi-fixed and variable costs, expressed as a ratio of income.

Assumptions on revenue

12. We considered three scenarios, to reflect different assumptions about the marginal rate tariff for emergency services and for specialised services:

(a) The marginal rate emergency tariff, whereby commissioners withhold a percentage of the value of emergency admissions above a provider's agreed baseline. In recent years, the marginal rate tariff has been paid at 30% above the baseline level of activity. For 2015/16, the marginal rate has been set at 70% for those trusts that have opted for the Enhanced Tariff Option, which is the case for both ASP and RSC. We considered scenarios where the marginal rate tariff for emergency admissions is set at 30% and at 70%, as well as one where the full marginal rate tariff is paid.

(b) The arrangement for acute prescribed specialised services whereby the amount payable to the provider in respect of provision of these services for levels above an agreed baseline is a proportion of the value by which

that base was exceeded. For 2015/16, that proportion is set at 70%. We considered scenarios where the marginal rate tariff for specialised services is set at 70% and where it is set at 100%.

13. Table 1 shows the scenarios we considered.[2]

Table 1: Scenarios

	Marginal rate on emergency services	*Marginal rate on specialised services*
		%
Scenario1	100	100
Scenario 2	70	70
Scenario 3	30	70

14. We set out in the Annex the approach we took to construct the measure of revenue under each scenarios.

Limitations of the analysis

15. In interpreting the results of the analysis, we are mindful of limitations in our analysis of Parties' margins. We discuss these below.

16. The SLR data reflects an allocation of costs and income across service lines. We observe that costs and income were not always allocated to a service level, particularly in the case of the RSC data. RSC told us that, for some POD groups, its SLR data allocated income but not costs across service lines.

17. Our analysis relies on historical SLR data. It draws on data from 2012/13 for RSC and from 2013/14 for ASP. The analysis assumes that the levels and structure of costs and revenue in 2012/13 in the case of RSC, and in 2013/14 in the case of ASP, are guides to the levels and structure of costs and revenues in the future.

18. We have made assumptions about how the categories of service lines, reported in the Parties' data, map to the groups of services of interest to us: A&E attendances, day-cases, outpatients, maternity, elective inpatient and non-elective inpatient. In some instances, we have tested the sensitivity of our estimates to the assumptions we have made regarding the mapping across categories:

    (a) For ASP, we assumed that the income and costs reported under the POD groups Critical Care – Adult, and Critical Care – Neonatal were split

[2] We considered that the marginal rate applicable to specialised services provided within the context of emergency settings is given by the product of the marginal rate for specialised services and the marginal rate for emergency services.

equally between elective and non-elective inpatients.[3] To test the sensitivity of our results to this assumption, we re-ran the analysis on the assumption that the revenues and costs of those two POD groups were split between elective and non-elective inpatients in the ratio of 1:3, and under the assumption of a 3:1 ratio.

(b) For RSC, we assumed that the income and costs reported under the POD groups Best practice tariff, Critical care and Private patient POD Unknown were split equally between elective and non-elective inpatients.[4] As above, we tested the sensitivity of our results to this assumption by re-running the analysis for the case where that split is in the ratio of 1:3, and for the case where it is in the ratio of 3:1.

19. We found that our results were robust to these sensitivity tests. The results are set out in the Annex.

20. The SLR data includes income and costs associated with the provision of specialised services. It is necessary to identify the income from specialised services that is included in the SLR data in order to consider scenarios where the 70% marginal tariff will apply to these services. ASP provided us with data on revenues from specialised services that allowed us to go some way towards separating out the revenue between specialised and non-specialised services. RSC also provided us with data on the value of specialised services provided, broken down by specialty, although we understand that this did not relate to 2012/13, the year to which the RSC SLR data relates. This is because RSC did not have an NHS Specialist Services Contract before 2013/14 and so RSC has no ability to accurately value the specialties as requested for that year of data. Given this, and because we were not confident in tying the RSC's SLR data with the RSC data on revenue for specialised services, we took as the base case a scenario where specialised services account for 25% of RSC's income, across service lines, which broadly reflects the share of RSC's total income from specialised services.[5] We checked the robustness of our results by running the analysis under alternative scenarios regarding the relative importance of specialised services at RSC, as outlined in the Annex.

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[3] We considered that a 50:50 division was an appropriate base case as ASP's income from elective and from non-elective inpatients are broadly similar.
[4] We considered that a 50:50 division was an appropriate base case as RSC's income from elective and from non-elective inpatients are broadly similar.
[5] RSC's revenues from specialised services were approximately £71 million in 2013/14, 28% of its revenues for that financial year.

Breakdown of costs and profit margins

21. We set out below a high-level breakdown of costs between fixed, semi-fixed and variable costs, and our analysis of profitability at the margin for each of the Parties.

ASP

22. Table 2 reports the income and costs – broken down into variable, semi-fixed and fixed-costs – for separate groups of services.

Table 2: ASP – income and breakdown of costs, 2013/14

			Breakdown of costs					
	Revenue (£m)	*Total costs (£m)*	*Fixed costs (£m)*	*(%)*	*Semi-fixed costs (£m)*	*(%)*	*Variable costs (£m)*	*(%)*
AE attendances	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Day-cases	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Outpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maternity	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Elective inpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Non-elective inpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Other	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: ASP data, CMA analysis.

23. The breakdown of costs between fixed, semi-fixed and variable costs is broadly similar across A&E admissions, day-cases and elective inpatients, with each cost category representing around one-third of total costs. Outpatient services had a significantly higher share of fixed costs ([✂]%) and a lower share of variable costs ([✂]%). Non-elective inpatient services and, in particular, maternity services had a relatively higher share of semi-fixed costs ([✂]% and [✂]% respectively) and a lower share of costs classified as variable costs. In each of these groupings there was considerable variation in these shares of costs across the service lines.

24. Table 3 sets out our findings on the weighted average profit margin across service lines for separate groups of services. The table shows the margins with respect to variable costs alone, and with respect to the sum of variable and semi-fixed costs. The table sets out the figures for the three scenarios, reflecting different assumptions about the marginal tariff for emergency admissions and for specialised services, as described above.

Table 3: ASP – margins

%

	Scenario 1		Scenario 2		Scenario 3	
	Variable	*S Fixed + Var*	*Variable*	*S Fixed + Var*	*Variable*	*S Fixed + Var*
AE attendances	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Day-cases	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Outpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maternity	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Elective inpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Non-elective inpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: ASP data, CMA analysis.

25. In Scenario 1, the average variable margin across elective inpatient services was [✂]%, and the average margin based on variable and semi-fixed costs was [✂]%. Under Scenarios 2 and 3, the margins were slightly lower – [✂] rather than [✂]%, and [✂] rather than [✂]% – reflecting the lower revenues earned from specialised services. Across non-elective inpatient services, under Scenario 1, the average variable margin was [✂]% and, taking into account semi-fixed costs, the semi-variable margin was [✂]%. Under Scenarios 2 and 3, the variable margins for non-elective inpatient services were significantly lower and they were [✂] if semi-fixed costs are also considered. The lower margins for these services in those two scenarios reflect the assumption that the full tariff is not paid.

26. Within each group of services, the figures varied among specialties.[6] All but one of the 25 elective inpatient specialties had a positive variable margin. When taking account also of semi-fixed costs, 18 of the 25 elective inpatient specialties had positive margins; these accounted for 99% of elective inpatient revenue. For non-elective inpatients, all 26 specialties had positive variable margins, and the margin was positive for 20 of these when semi-fixed costs were also considered. These 20 specialties accounted for 96% of revenue. The pattern is similar with day-cases, outpatients and maternity services. For each of these, the margin was positive for the overwhelming majority of specialties, whether the margin was calculated based on variable costs alone or also took account of semi-fixed costs. For each of day-cases, outpatients and maternity, the specialties with positive margins accounted for 98% or more of the revenue.

27. Table 3 also reports the margins under Scenario 2 (70% tariff for both emergency admissions and for specialised services) and under Scenario 3 (30% tariff for emergency admissions and 70% tariff for specialised services). Compared with Scenario 1, these two scenarios differ with respect to the assumptions about the rate at which the Parties are paid for a marginal patient in relation to specialised services, and in relation to emergency

[6] The Annex includes tables reporting margins at the specialty level.

admissions. Compared with Scenario 1, the differences in these assumptions have an effect on the margins of outpatient, elective inpatient and, particularly, on non-elective inpatient. For outpatient and elective inpatient services, the average variable margin was similar across Scenarios 1, 2 and 3, for both variable and semi-fixed costs.

28. For non-elective inpatients, the margins were significantly greater under Scenario 1 than under either of the other two scenarios. The weighted average of the variable margin across non-elective inpatient specialties was positive under either Scenario 2 or 3. The average margin was [✂] if semi-fixed costs are considered: in that case, the average margin was [✂]% in Scenario 2 and [✂]% in Scenario 3.

RSC

29. Table 4 reports RSC income and costs for groups of services, broken down into variable, semi-fixed and fixed costs.

Table 4: RSC – income and breakdown of costs, 2012/13

			Breakdown of costs					
	Revenue (£m)	*Total costs (£m)*	*Fixed costs (£m)*	*(%)*	*Semi-fixed costs (£m)*	*(%)*	*Variable costs (£m)*	*(%)*
AE attendances	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Day cases	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Outpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maternity	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Elective	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Non-elective inpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Other	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: RSC data, CMA analysis.

30. Semi-fixed costs account for a broadly similar share of total costs for each of the groups of services shown in the table, roughly in the range of [✂] to [✂]%, with the share for non-elective inpatients being at the higher end and the share for outpatient services at the lower end. Maternity services has a relatively low share of variable costs ([✂]%), whilst the share for outpatient services was relatively high ([✂]%). In each of these groups of services, there was considerable variation in these shares of costs across the service lines.

31. We set out in Table 5 our estimates of the weighted average profit margins across service lines for separate groups of services for RSC. It shows the margins calculated with respect to variable costs alone, and with respect to the sum of variable and semi-fixed costs. The table sets out our estimates of these margins under each of the three scenarios described above.

Table 5: RSC – margins

%

	Scenario 1		Scenario 2		Scenario 3	
	Variable	*S Fixed + Var*	*Variable*	*S Fixed + Var*	*Variable*	*S Fixed + Var*
AE attendances	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Day cases	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Outpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Maternity	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Elective	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Non-elective inpatient	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: RSC data, CMA analysis.

32. Under Scenario 1, for elective inpatient services, the average weighted margin across elective inpatient services was [✂]%. When variable and semi-fixed costs are considered, the average weighted margin for that service was [✂]. For non-elective inpatient services, the average weighted variable margin was [✂]% and, taking account semi-fixed costs, the semi-variable margin was [✂]%. The significant difference between the two measures of margin – one considering variable costs alone, and the other considering variable and semi-fixed costs – reflects the relatively high share of costs accounted for by semi-fixed costs. This difference is observed across service groups, and across the scenarios.

33. Within each group of services, the margins varied among service lines (see the Annex).[7] For elective inpatient services, all 26 service lines under Scenario 1 had positive variable margins. All but five of them also had positive margins when taking account of semi-fixed costs. We note that four of those service lines have variable margins and semi-variable margins of [✂]%, reflecting the fact that no variable costs and no semi-fixed costs have been allocated against them. Those four service lines accounted for less than 0.05% of revenues in respect of elective inpatients. For non-elective inpatients, all but one of the 27 service lines had positive variable margins, and all but three had positive margins when the margins took account of variable and semi-fixed costs. Similarly, for day-cases, outpatients and maternity services, the margin was positive for the overwhelming majority of service lines, whether the margin was based on variable costs alone or also took account of semi-fixed costs.

34. Table 5 also shows the margins under Scenarios 2 and 3, where it is assumed that RSC was paid below the full tariff for emergency admissions and for specialised services. Compared with Scenario 1, the change in the assumptions lowers the margins for outpatient and elective inpatient services slightly. This reflects the reduction in revenue associated with specialised services. For outpatient services, the weighted average variable margin and

[7] See the Annex.

the weighted average semi-variable margin was positive. For elective inpatients, the variable margin was also positive. However, when the margin is calculated taking account of variable and semi-fixed costs, the weighted margin for elective inpatient services became negative, at [✂]%. For non-elective inpatients, the margins were significantly smaller under either Scenario 2 or 3 compared with what they were under Scenario 1. The weighted average variable margin was positive under Scenario 2 and under Scenario 3. The weighted average margin was [✂] if semi-fixed costs are also taken into account: the average semi-variable margin was [✂]% under Scenario 2, and [✂]% under Scenario 3.

Examining the sensitivity of results

35. As described earlier, we examined how our results were affected by our assumption on how the revenue and costs for certain categories of services reported in ASP's and RSC's SLR data map across to elective inpatient and to non-elective inpatient services.

36. Whilst our estimates of the margins for elective inpatient and for non-elective inpatient services are affected by those assumptions, we found that the pattern discussed above remains.[8] This is the case both for ASP and for RSC.

37. We also examined how our results are affected by our assumption on the share of RSC's services that are specialised services. As a base case, we took this share to be 25%, across all services. We re-ran our analysis for the case where we assumed the value to be 10%, and for the case where we assumed the value to be 40%. Under either of these variations, we found the same pattern in terms of the profit margins at the service category levels as in the base case where we assumed the share of specialised services at RSC was 25%. The Annex sets out the relevant tables.

Outcomes

38. We analysed the costs and revenues of ASP and RSC by groups of service, and by specialty. We consider that the analysis is helpful to inform our view on the financial incentives of each of the Parties to attract additional patients, or to retain present levels of activity. This assisted us in our consideration of the degree to which we expect the Parties to compete with each other and with other providers.

[8] See the Annex.

39. We calculated profit margins for each of the Parties for A&E admissions, day-cases, outpatient maternity, elective inpatients and non-elective inpatients.

40. Our analysis was undertaken based on service line reporting data from the Parties. Our analysis is therefore dependent on the methods used by each Party to allocate the revenue and costs across service lines, and to categorise costs into variable, semi-fixed or fixed costs. We understand that the Parties draw on their SLR data for the purpose of building up a business case for possible investments, although the Parties told us that RSC was not currently able to generate SLR figures.

41. We calculated profit margins under different assumptions regarding the marginal rate at which the Parties would be paid for emergency admissions and for specialised services. We considered three scenarios: one where the Parties are paid the full tariff; one where the Parties are paid at 70% of the tariff for emergency admissions and for specialised services; and one where the marginal rate tariff on emergency admissions is 30% and that on specialised services is 70%.

42. We calculated two measures of profit margins. We calculated a variable margin and a semi-variable margin. The variable margin takes account of variable costs alone, and the semi-variable takes account of semi-fixed costs as well. We understand that variable costs cover items such as materials, drugs and agency staff, and that semi-fixed costs include salaries of senior managers and of medical, nursing and support staff (other than agency staff), computer network costs, lease rents, laboratory equipment and maintenance, cleaning equipment. A measure of profit margin that takes account of variable costs alone will be a useful indicator of the financial attractiveness of increasing the volume of providing a service only where such expansion does not, for example, result in the need to recruit more permanent staff.

43. We found that, for ASP and RSC, the average margin was positive for day-cases, outpatient and maternity services. It was also positive for ASP's A&E attendances and elective inpatient services. This was the case under each of the different sets of assumptions regarding the marginal tariff for non-elective admissions and for specialised services. For those services, we also found that the profit margin was positive when we took account of variable costs alone, and when we also took account of semi-fixed costs. Among these groups of services, we found a variation in the margins among the individual specialties, though the overwhelmingly majority were positive. For A&E attendances at RSC, we found that the variable margin was positive under the different sets of assumptions on the marginal tariff, and that, if semi-fixed costs were taken into account, the margin was negative under any of the scenarios considered. We found that RSC's variable margin for elective

inpatient services was positive across the scenarios we considered. If semi-fixed costs are taken into account, RSC's margin for that service was close to zero when we assumed that the marginal rate at which the trust was paid for specialised service and for emergency admissions was 100%, and it became negative under either of the scenarios where we assumed that the marginal rate was below 100%.

44. The margin for non-elective services was affected significantly by the assumption made about the rate at which the marginal tariff was paid for emergency admissions. If we assume that the full tariff is paid, ASP's and RSC's variable margin and semi-variable were positive. If we assume that the marginal tariff rate for emergency services was 30%, the semi-variable margin of each of the Parties was negative. This was also the case if we assume that the marginal rate for those services was 70%. Under either of those assumptions, the variable margins remained positive.

Service line mapping

Mapping of service lines

1. The tables set out how we have mapped the POD groups in ASP's and RSC's SLR data to the groups of services we have found relevant to this inquiry.

2. As shown in the tables, we considered that some POD groups cover both elective inpatient and non-elective inpatient services. For these POD groups we assumed, as a base case, that the revenue and costs were split equally between elective inpatient and non-elective inpatient services. We examined the sensitivity of our results to this assumption, as set out further below.

3. We excluded from our analysis those POD groups we have marked as 'Excluded' in the tables.

Mapping of ASP service lines

Table 1: ASP – mapping of POD group code

ASP's POD group code	*Comment*	*Our categorisation/ action*
AE	Refers to Accident and Emergency attendances. A&E admissions are categorised under the POD group 'Non-elective Inpatient'	A&E attendances
CRC-A	Refers to Adult critical care, and covers 'high dependency unit' and 'intensive care'. ASP told us that these are always inpatients, but could be either elective or non-elective.	Elective/Non-elective
CRC-N	Refers to neonatal critical care. ASP told us that technically the data set against this should be classified as CRC-A, and we reclassified these data as such.	Elective/Non-elective
DC	Refers to Day-cases.	Day-cases
EL IP	Refers to Elective inpatients.	Elective inpatient
NEL IP	Refers to Non-elective inpatients.	Non-elective, except for specialties linked to Maternity
OP	Refers to Outpatients	Outpatient
Comm MW	Refers to community midwives.	Maternity
DA	Refers to Direct Access, which comprises several services that GPs can access directly, without needing to refer the patient to a consultant at the trust.	Direct access
Drugs & Dev	Refers to drugs and devices, for which ASP is paid at cost by the commissioner. We consider it is not relevant to an assessment of the financial reward of attractiveness additional patients.	Excluded
Other	ASP told us this POD group contains items such as block contracts (eg neonatal transport), community paediatrics team, readmission penalties, other penalties and CQUIN payments.	Excluded
UN	Refers to an 'unidentified' category. The data set report no income or cost against this category.	Excluded

4. We also categorised service lines labelled as Women's Services, Obstetrics, Midwife Episodes and Community Midwives as relating to Maternity services.

Mapping of RSC service lines

Table 2: RSC – mapping of POD group code

RSC POD group code	*Comment*	*Our categorisation*
A&E	Refers to Accident and Emergency.	A&E attendances
Ad hoc	RSC told us that all specialties under this POD group other than that marked 'Trust' relate to clinical activity, with the bulk of income relating to PbR excluded high cost and chemotherapy drugs. We excluded entries marked with the specialty 'Trust' and marked with 'Bowel cancer screening', and allocated the remaining in line with the breakdown of specialities' activity level, as suggested by RSC. We excluded entries related to 'Trust' as these are items that were agreed at the end of the year to finalise the contract with commissioners; they cover CQUIN payments, readmission penalties and contract deductions for targets not met. We excluded 'Bowel cancer screening' as we understand this relates to a block contract.	Excluded 'Trust' and 'Bowel cancer screening'. Allocated other services in line with activity levels.
Antenatal appointment		Maternity
Best practice tariff	RSC told us this refers to income received for episodes of care for which a best practice tariff (BPT) has been set and meets the criteria to obtain the uplift above the base tariff. BPTs cover some elective and some non-elective services. The RSC data report values under BPT for 'T&O' and for 'Stroke and geriatric medicine'. We consider that these could cover both elective and non-elective services.	Elective/Non-elective
Cancer mdt	Refers to meeting of a multidisciplinary team to discuss treatment approaches for cancer patients. We expect that this refers primarily to elective services.	Elective
Community midwifery block	This refers to a block contract. We consider that the revenue for this service is likely to remain unchanged for a small change in volume of patients, though arguably this might be renegotiated for significant changes in volumes.	Maternity
Critical care	We consider that this could refer to either elective or non-elective services.	Elective/Non-elective
Day case	-	Day-cases
Direct access	Refers to Direct Access, which comprises several services that GPs can access directly, without needing to refer the patient to a consultant at the trust.	Direct access
Elective	-	Elective
Follow-up outpatient	-	Outpatient
Homebirth	-	Maternity
NELNE	We understand this refers to non-elective non-emergency services. RSC told us this includes maternity episodes and emergency patients transferred from other trusts. We categorised service lines relating to 'Obstetrics Maternity and Benign Gynaecology' as Maternity services.	Non-elective (other than services relating to 'Obstetrics Maternity and Benign Gynaecology')
New outpatient	-	Outpatient
Non-elective	-	Non-elective
Non-patient service	RSC told us that this covers items that are not patient related, and suggested they should be excluded from the analysis of profitability.	Excluded
Pbr excluded devices	We consider this covers both elective and non-elective services. The income set against this POD group is equal to the cost. We consider it is not relevant to an assessment of the financial reward of attractiveness additional patients.	Excluded

RSC POD group code	*Comment*	*Our categorisation*
Postnatal appointment		Maternity
Private patient pod unknown	RSC told us that these activities relate to services provided to private patients where RSC cannot identify the relevant specialty and so is unable to allocate costs across service lines within this POD group, although revenue is allocated. We consider that the services falling within POD could be either elective or non-elective.	Elective/Non-elective
Provider 2 provider	RSC told us this is income and costs relating to services carried out for another healthcare provider. We consider that the rewards from providing such services are not relevant to analysing the margins associated with RSC serving patients directly.	Excluded
Unidentified inpatient pod	RSC told us that the costs and income under this category relate to Radiological testing and they are reported under the two specialties: 'Obstetrics, Maternity and Benign Gynae' and 'Radiology'. RSC suggested the costs and income could be apportioned to Elective and Non-elective PODs based on the activity level of those two specialties.	Elective and Non-elective inpatient
Unidentified outpatient pod	RSC told us the cost and income recorded under this category relate to 'Radiological Diagnostic Testing' and can be transferred to 'Outpatient' category.	Outpatient
Unidentified patient pod	RSC told us that there are three HRGs under this category. One, labelled 'Pathology test', relates to pathology tests requested by specific specialties. For each of those specialties, we apportioned the costs associated with these across POD groups in line with the activity levels of that specialty. As suggested by RSC, we excluded from our analysis the costs and income relating to the two other HRGs, 'Patient Transport Service' – because RSC does not hold information to allow us to allocate costs and income – and 'SLAM to Ledge Adjustment' – because this relates to adjustments to bring estimates used initially to calculating the last two months of the year compared to final deal agreed with Surrey PCT.	Allocated income and costs relating to 'Pathology Test' across POD groups. Excluded other.

Assumptions to allocate revenue

5. To consider the impact of varying the assumptions in Scenarios 1, 2 and 3, it is necessary to identify the portion of revenues relating to emergency admissions and to specialised services, as these are the elements that are affected by varying the assumptions regarding the marginal tariff.

6. For each service line, we split revenue between that for provision of specialised services and for provision of non-specialised services. For ASP, we did this on the basis of supplementary service line reporting data ASP provided to us, which contained information on income for specialised services commissioned from Surrey & Sussex Local Area Team (on behalf of NHS England). This represented about 80% of ASP's specialised services by value. For RSC, we assumed that, for each service line, the revenue was allocated between specialised and non-specialised services in the ratio of 1:3 for each service line, which roughly reflects the ratio of aggregate revenue from specialised services to aggregate revenue from other services.

7. We adjusted that part of the revenue allocated to non-specialised services to reflect the assumption on the rate at which payments were made in relation to emergency services above the base line. For ASP, we assumed that this affected those services falling under POD Group labelled 'Non-elective

Inpatients'. For RSC, we assumed these were the service lines categorised as 'Non-Elective'.

Sensitivity analysis

8. As described in paragraph 18, we examined the sensitivity of our results under alternative scenarios regarding the allocation revenues and costs of those POD groups in ASP's and in RSC's service line reporting data which we considered covered both elective inpatient services and non-elective inpatient services. These POD groups were:

   (a) for ASP – Critical Care Adult, and Critical Care Neonatal; and

   (b) for RSC – Best practice tariff, Critical Care, and Private Patient Unknown.

9. As a base case, we allocated the revenue and costs of these POD groups equally between elective and non-elective inpatients. We replicated the analysis for the case where the revenues and costs of those POD groups are allocated between elective and non-elective in the ratio of 1:3, and for the case where we assume a ratio of 3:1. The weighted average of the variable margin and of the semi-variable margin for elective inpatients and for non-elective inpatients under the different assumptions is set out below. Table 3 shows the weighted average margins for elective inpatient services, and for non-elective inpatient services for different assumptions on the ratio in which the revenue and costs for the above POD groups were allocated between elective inpatient and non-elective inpatient services. Varying this assumption did not affect the weighted average margins for other services. The figures shown in the table are for Scenario 1, which is described in the main body of the paper. The pattern is similar for Scenario 2 and Scenario 3.

Table 3: Sensitivity of results to assumption on mapping of service lines (Scenario 1)

%

		Ratio 1:3		*Ratio 1:1*		*Ratio 3:1*	
Trust	*Elective: non-elective ratio*	*Elective-inpatient*	*Non-elective inpatient*	*Elective-inpatient*	*Non-elective inpatient*	*Elective-inpatient*	*Non-elective inpatient*
RSC	Variable margin	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
RSC	Semi-variable margin	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ASP	Variable margin	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
ASP	Semi-variable margin	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

10. The table shows that the margins did not change significantly under the different scenarios concerning the allocation of costs and revenues between elective and non-elective inpatient services.

11. We also examined how our results varied across scenarios regarding the share of RSC's income that relates to payments for specialised services. As a

base case, we assumed that specialised services accounted for 25% of revenue, for each service line and across categories of services. This is roughly the proportion of RSC's total income which is derived from specialised services. We re-ran our analysis under two other scenarios: one where we assumed that specialised services accounted for 10% of revenues, and one where we assumed they accounted for 40%. The tables only show the margins for Scenarios 2 and 3, as the assumption regarding the relative importance of specialised services has no impact under Scenario 1, where it assumed that, as is the case in respect of other services, specialised services are paid at the full tariff.

Table 4: RSC margins, assuming specialised services account for 10% of income

	Scenario 2		*Scenario 3*	
	Variable	*S Fixed + Var*	*Variable*	*S Fixed + Var*
AE attendances	[✂]	[✂]	[✂]	[✂]
Day-cases	[✂]	[✂]	[✂]	[✂]
Outpatient	[✂]	[✂]	[✂]	[✂]
Maternity	[✂]	[✂]	[✂]	[✂]
Elective	[✂]	[✂]	[✂]	[✂]
Non-elective inpatient	[✂]	[✂]	[✂]	[✂]

Source: RSC data, CMA analysis.

Table 5: RSC margins, assuming specialised services account for 40% of income

	Scenario 2		*Scenario 3*	
	Variable	*S Fixed + Var*	*Variable*	*S Fixed + Var*
AE attendances	[✂]	[✂]	[✂]	[✂]
Day-cases	[✂]	[✂]	[✂]	[✂]
Outpatient	[✂]	[✂]	[✂]	[✂]
Maternity	[✂]	[✂]	[✂]	[✂]
Elective	[✂]	[✂]	[✂]	[✂]
Non-elective inpatient	[✂]	[✂]	[✂]	[✂]

Source: RSC data, CMA analysis.

12. The pattern shown in Tables 4 and 5 is broadly in line with that shown in Table 5, relating to our base case were we assumed that specialised services accounted for 25% of RSC's income across service categories.

Margins by specialty

13. The charts below show the margins at the specialty level for day-cases, elective inpatient, non-elective inpatients and for outpatients.

14. The charts show the variable margin and the margin taking account of variable and semi-fixed costs. The figures are based on Scenario 1. The vertical lines represent the weighted average margin across specialties within the service.

15. For presentational purposes, the charts do not include those specialties where the profit margins calculated on the basis of variable and semi-fixed costs

were below minus [✂]%, or above [✂]%.[✂]. For both ASP and RSC, the excluded specialties account for less than 1% of the revenues from the relevant category of services.

ASP margins by specialty

Figure 1: [✂]

[✂]

Figure 2: [✂]

[✂]

Figure 3: [✂]

[✂]

Figure 4: [✂]

[✂]

RSC margins by specialty

Figure 5: [✂]

[✂]

Figure 6: [✂]

[✂]

Figure 7: [✂]

[✂]

Figure 8: [✂]

[✂]

Glossary

Act	Enterprise Act 2002.
Acute care systems	A model of integrated care to deliver acute care services.
Acute services	Medical treatment usually provided in a hospital setting (a subset of secondary care).
Acute trust	Trust providing acute services.
Admitted patient	A patient admitted to hospital as a **day-case** or **inpatient**.
AH	Ashford Hospital, located in Ashford and operated by **ASP**.
APMS Regulations	Alternative Provider Medical Services Regulations.
AQP	Any Qualified Provider. Previously referred to as **AWP**. Patients can select from any NHS or independent sector provider of acute elective care in England that is registered with the **CQC**, has a local **commissioner** or nationally led NHS **Standard Contract**, and is willing to provide services at the **NHS tariff**.
ASP	Ashford and St Peter's Hospitals NHS Foundation Trust.
AWP	Any Willing Provider. See **AQP**.
Block contract	A contract that usually involves a fixed sum to purchase healthcare services for a given period.
CAGR	Compound annual growth rate.
Care pathway	A plan of care for a patient.
Catchment area	The geographical area from which a hospital draws most of its patients.
CC	Competition Commission, the predecessor, along with the **OFT**, to the **CMA**.
CCG	Clinical Commissioning Group, an organisation responsible for implementing the commissioning roles as set out in the **HSCA 2012**.
CCP	Co-operation and Competition Panel.

Chertsey	The location of **St Peter's** hospital, operated by **ASP**.
Choose and book	Now called NHS e-Referral Service, a national service that combines electronic booking and a choice of place, date and time for first **outpatient** hospital or clinic appointments.
CIP	Cost improvement plan.
CMA	Competition and Markets Authority.
Commissioners	The organisations that make arrangements for the provision of NHS healthcare services. These include **NHS England** (and its teams), **CCGs** (including where they act through commissioning support units), and local authorities exercising NHS commissioning functions under partnership arrangements.
Commissioning data sets	Information on care provided for all NHS patients by providers, including independent providers.
Community health services or community based services	A range of services and treatments provided by care professionals in the community such as: health visiting, district nursing, health promotion drop-in sessions, residential care home visits, school nursing activities and community dentistry. Services may be provided in various locations and settings in the community. Services are provided in accordance with the NHS Standard Contract for Community Services.
CoSRR or COS	Continuity of Services Risk Rating. The rating given by Monitor in respect of the risk that a trust will fail to carry on as a going concern. A rating of 1 indicates the most serious risk and 4 the least risk.
CQC	Care Quality Commission. The statutory body that monitors, inspects and regulates health and social care services provided by registered providers, to ensure they meet standards of quality, effectiveness and safety.
CQUIN	Commissioning for Quality and Innovation. A national framework for locally agreed quality improvement schemes. It enables **commissioners** to reward excellence by linking a proportion of payment for services provided to the achievement of quality improvement goals.

CRG	Clinical Reference Group. Groups of volunteer members made up of clinicians, **commissioners** and public health experts responsible for preparing national specialised service level strategy and developing specifications and policies.
Day-case	A patient admitted electively during the course of a day with the intention of receiving care, who does not require the use of a hospital bed overnight and who returns home as scheduled. If this original intention is not fulfilled and the patient stays overnight, the patient is regarded as an **inpatient** admission.
DGH	District general hospital.
Diagnosis	The term given when investigations performed to discover the reason for a symptom or set of symptoms lead to a conclusion of what is wrong with a patient.
Dr Foster	Provider of comparative information on health and social care services.
DTC	Diagnosis and treatment centre.
DTR	Default tariff rollover.
Elective service/acute service/care	Planned specialist medical care or surgery, usually following referral from a primary or community health professional such as a **GP**.
Episode	Treatment given to a patient under the care of a consultant.
ETO	Enhanced tariff option, a package of local variations to the national prices, **NTPS**, and local pricing arrangements for services without a national price that will apply to healthcare providers in 2015/16 if they have elected for this option.
FBC	Full business case prepared by the **Parties**.
FCE	Finished Consultant Episode. A completed period of care for a patient requiring a hospital bed, under the care of one consultant within one healthcare provider; if a patient is transferred from one consultant to another, even if this is within the same provider, the episode ends and another one begins.

FFT	Family and friends test.
Five Year Forward View	The NHS Five Year Forward View sets out the challenges facing the health and care system over the next five years.
Foundation trust	A trust that has been authorised as an NHS foundation trust by **Monitor**. Foundation trusts have more operational autonomy than **NHS trusts**.
FRR	Financial risk rating (issued by **Monitor** to a **foundation trust**).
FTE	Full-time equivalent.
GDP	General dental practitioner.
GMC	General Medical Council, the independent regulator of doctors in the UK.
Governor	Member elected to serve on the Council of Governors of a **foundation trust**.
GP	General practitioner, a doctor who works in a local surgery or health centre, providing medical advice and treatment to patients.
Guildford	The location of **RSC**'s hospital.
GWCCG	Guildford and Waverley **CCG**. The main commissioner of NHS services from **RSC**.
HES	Hospital Episode Statistics. HES is a data warehouse containing details of all admissions, **outpatient** appointments and A&E attendances at NHS hospitals in England. This data is collected during a patient's treatment at a hospital and is submitted to enable hospitals to be paid for the care they provide.
HoT	Heads of terms.
HRG	Healthcare Resources Group.
HSCA 2012	Health and Social Care Act 2012.
ICO	Integrated care organisation.

ICP	Integrated **care pathway**.
Inpatient	A patient who has been admitted to hospital either as a **day-case** or for a longer period of time, and the services provided to such a patient.
Inquiry group	A group of **CMA** panel members constituted to decide the questions set out in section 35 of the **Act** in respect of the Transaction.
IOG	Improving Outcomes Guidance.
Licensed providers	Providers of healthcare services for the purposes of the NHS that have been granted a licence by **Monitor**.
Local modifications or local variation	A modification or variation to the price for a service determined in accordance with the **national tariff**, as provided for in sections 124 to 126 of the **HSCA 2012**.
LOS	Length of stay.
Managed contract	Contract between a **commissioner** and a provider under which, subject to exceptions, payment does not vary with levels of activity.
Marginal rate emergency rule	A rule under which providers are paid less than the full tariff in respect of admissions over a specified level.
MFF	Market forces factor. An index used in tariff payment and **commissioner** allocations to estimate the unavoidable regional cost differences of providing healthcare. Each NHS organisation receives an individual MFF value.
Monitor	Monitor is the sector regulator of NHS-funded healthcare services. Under the **HSCA 2012**, its main duty is to protect and promote the interests of patients. The **HSCA 2012** also gave Monitor and **NHS England** joint responsibility for the NHS payment system under which **NHS England** specifies the services to be priced and Monitor designs and applies the methodology for pricing them.
National tariff	The national tariff encompass a comprehensive payment system, including a set of specified currencies and associated prices and a suite of rules and variations that apply both nationally and locally.

National variations	National adjustments made to the **national tariff**.
NHS	National Health Service, the UK's health system providing free medical care.
NHS Commissioning Board	Known as **NHS England**.
NHS England	The name by which the **NHS Commissioning Board** is known. Established by the **HSCA 2012** in October 2012. NHS England is responsible for overseeing the financial situation of **CCG**s and compliance with their statutory duties and for commissioning services including primary medical services and specialised services. NHS England is comprised of eight directorates. The operations directorate is split across four regions and there are 27 local teams. The merger **Parties** are in the NHS South of England region and are covered by the **Surrey and Sussex Area Team**.
NHS foundation trust	See **foundation trust**.
NHS outcomes framework	A framework of outcomes and indicators relating to the improvement of performance in the NHS and guidance on the commissioning of health services.
NHS Standard Contract	The contract used when **CCG**s enter into contracts for clinical services and by **NHS England** when entering into all contracts for non-primary care clinical services.
NHS trust	A trust established to run NHS hospital services, accountable to the government and directed by the **NHS**.
NICE	The National Institute for Health and Care Excellence.
Non-elective service/acute service/care	Services that are not scheduled in advance; they arise when admission is unpredictable and at short notice because of clinical need.
NTPS	National Tariff Payment Systems.
NWSCCG	North West Surrey **CCG**, the main commissioner of NHS services from **ASP**.

OBC	Outline business case.
OFT	Office of Fair Trading, the predecessor, along with the **CC**, of the **CMA**.
Outpatient	A patient attending an outpatient clinic, or the services provided to such a patient.
PALS	Patient Advice and Liaison Service.
Parties	**ASP** and **RSC**.
PBC	Practice-based commissioning.
PbR	Payment by Results. An approach to paying providers on the basis of the amount of activity undertaken.
PCT	Primary care trust; from 31 March 2013 the functions of PCTs were taken over by other organisations.
Phase 1	The investigation of the anticipated merger to determine whether the statutory test for reference was met.
Phase 2	The investigation of the Transaction following reference launched on 26 February 2015.
Primary care or primary healthcare	Services provided by family doctors, dentists, pharmacists, optometrists and ophthalmic medical practitioners, as well as district nurses and health visitors.
Primary care systems	Systems available to support the delivery of primary care services, such as electronic prescription service, **GP** systems of choice, NHS pathways.
Private healthcare services	Services provided by a healthcare organisation that are directly funded by the patient or their insurers.
Procedure	A clinical intervention or operation carried out on a patient.
QIPP	Quality, Innovation, Productivity and Prevention programme. A large-scale programme developed by the Department of Health to drive forward quality improvements in NHS care and achieve significant efficiency savings.
RCBs	Relevant customer benefits.

Risk assessment framework	Sets out **Monitor**'s approach to overseeing **NHS foundation trusts**.
RSC	Royal Surrey County Hospital NHS Foundation Trust.
SEC	Specialist Emergency Centre.
Secondary healthcare	Medical and surgical care and treatment usually provided by consultants and other healthcare professionals in a hospital setting.
Secondary uses service	A patient-based repository of NHS care event data for managerial and clinical purposes, such as healthcare planning, commissioning, public health, clinical audit and governance, benchmarking, performance improvement, medical research and national policy development.
Seven-day consultant present care	A scheme where **inpatient**s should be reviewed by an on-site consultant at least once every 24 hours, seven days a week, unless it has been determined that this would not affect the patient's **care pathway**.
Seven-day services	Services available seven days a week.
SLC	Substantial lessening of competition.
Specialised commissioner	**Commissioner** of specialised services.
Specialised services	Services which are complex and low-volume, and tend to be provided by a small number of providers. These services can be elective or non-elective and are usually commissioned by specialised/specialist **commissioners**.
Specialty	Divisions or categories of clinical work which may be defined by body systems/areas, age, clinical technology, clinical function, group of diseases or combinations of these factors. Healthcare services can be classified according to the speciality within which the consultant with prime responsibility for a patient is recognised or contracted to the organisation or the specialised service within which the patient is treated. Sub-speciality relates to a narrower specialty of clinical practice within a particular speciality, eg in orthopaedics, shoulder and elbow surgery.

Spell	The care given to a patient between their admission to hospital and discharge.
SPH	St Peter's Hospital NHS Foundation Trust.
St Peter's	St Peter's Hospital, located in **Chertsey** and operated by **ASP**.
Standard Contract	NHS Standard Contract mandated by **NHS England** for use by **commissioners** for all contracts for healthcare services other than primary care.
Surrey and Sussex Area Team	The area team of **NHS England** that is the main **commissioner** of specialist **acute services** from **ASP** and **RSC**.
Surrey Associate Commissioners	Surrey **CCG**s that have entered into a Surrey-wide collaborative agreement.
SUS	Secondary uses service.
Tertiary healthcare	Third tier specialist services provided in more specialised, usually designated, centres, generally covering a large catchment population. Referrals to these services are usually from another consultant (consultant-to-consultant referral) or are part of an agreed specialist pathway of care, such as a cancer pathway.
TFC	Treatment Function Code. A system for codifying and recording **outpatient** activity linked to national price tariffs.
Treatment	We use the phrase treatment to cover diagnoses, episodes of care delivered to a patient and procedures.
Treatment pathways	An anticipated plan of care for a patient with a condition or diagnosis.

NHS trusts, foundation trusts and hospitals referred to in this phase 2 inquiry

AH	Ashford Hospital (part of Ashford and St Peter's Hospitals NHS Foundation Trust).
Barts	Barts Health NHS Trust.
Basingstoke	Basingstoke and North Hampshire Hospital (**Hampshire**).
Charing Cross	Charing Cross Hospital (part of **Imperial College**).
Ealing	Ealing Hospital (part of London North West Healthcare NHS Trust).
East Surrey	East Surrey Hospital (part of **SASH**).
Epsom	Epsom Hospital (part of Epsom and **St Helier** University Hospitals NHS Trust).
Frimley	Frimley Health NHS Foundation Trust.
Frimley Park	Frimley Park Hospital (now part of Frimley Health).
Guy's and St Thomas'	Guy's and St Thomas' NHS Foundation Trust.
Hampshire	Hampshire Hospitals NHS Foundation Trust.
Heatherwood	Heatherwood Hospital (now part of Frimley Health).
Hillingdon	Hillingdon Hospitals NHS Foundation Trust.
Imperial College	Imperial College Healthcare NHS Trust.
Kingston	Kingston Hospital NHS Foundation Trust.
Maidstone and Tunbridge Wells	Maidstone and Tunbridge Wells NHS Trust.
Moorfields	Moorfields Eye Hospital NHS Foundation Trust.
North West London	North West London Hospitals NHS Trust.
Queen Victoria	Queen Victoria Hospital NHS Foundation Trust.
Royal Berkshire	Royal Berkshire NHS Foundation Trust.

Royal Brompton and Harefield	Royal Brompton and Harefield NHS Foundation Trust.
Royal Cornwall	Royal Cornwall Hospitals NHS Trust.
Royal Marsden	The Royal Marsden.
RSC	Royal Surrey County Hospital (Royal Surrey County Hospital NHS Foundation Trust).
SASH	Surrey and Sussex Healthcare NHS Trust.
SPH	St Peter's Hospital (part of Ashford and St Peter's Hospitals NHS Foundation Trust).
St George's	St George's University Hospitals NHS Foundation Trust.
St Helier	St Helier Hospital (part of Epsom and St Helier University Hospitals NHS Trust).
University College London	University College London Hospitals NHS Foundation Trust.
West Middlesex	West Middlesex University Hospital NHS Trust.
Western Sussex	Western Sussex Hospitals NHS Foundation Trust.
Wexham Park	Wexham Park Hospital (now part of Frimley Health).