Anticipated acquisition by UnitedHealth Group Incorporated of EMIS Group Plc.

Final Report

29 September 2023

The Competition and Markets Authority has excluded from this published version of the report information which the Inquiry Group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002 (specified information: considerations relevant to disclosure). The omissions are indicated by [✂]. Some numbers have been replaced by a range. These are shown in square brackets. Non-sensitive wording is also indicated in square brackets.

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Summary

Overview of our findings

1. The Competition and Markets Authority (**CMA**) has found that the anticipated acquisition of EMIS Group Plc (**EMIS**) by UnitedHealth Group Incorporated (**UH**) (the **Merger**) may not be expected to result in a substantial lessening of competition (**SLC**) in relation to the supply of medicines optimisation (**MO**) software or population health management (**PHM**) services in the United Kingdom (**UK**). UH and EMIS are together referred to as the **Parties** and, for statements relating to the future, the **Merged Entity**.

About the Parties and their products

2. EMIS is a UK-based healthcare software business that supplies, among other things, a primary care electronic patient record (**EPR**) system (**EMIS Web**). Primary care EPR systems allow GPs to manage appointments, conduct patient consultations, and update, store and share patient records. Every GP practice will use a primary care EPR system as it is essential to the running of a practice, and the other software used in GP practices need to interact with it.

3. Primary care EPR systems are the custodians of National Health Service (**NHS**) patient data, although the patient data belongs to the NHS and the GP practices. Any party (including NHS bodies) that requires primary care data relies on these systems for data access and/or extraction. Data protection laws apply, and there are additional safeguards put in place by the NHS. In order to interact with the primary care EPR system, or to extract data from it, suppliers will integrate using different **APIs** (Application Programming Interfaces). The APIs used can be mandated (ie by the NHS) or customised (ie agreed commercially between two suppliers).

4. EMIS also supplies a data analytics platform and related tools, which customers can use to extract and analyse the data held on EMIS Web (EMIS-X Analytics Explorer, or **EXA**).

5. UH's subsidiary, Optum Health Solutions (UK) Limited (**Optum**), also supplies healthcare solutions. These include:

   (a) MO software (for example ScriptSwitch), which suggests alternative medicines to GPs in order to increase the effectiveness and reduce the cost of prescribing. This software needs to integrate with the primary care

EPR system, including to provide prompts to GPs at the appropriate points during their workflow.

(b) PHM services, both advisory and software/tools, which use data analytics to improve the physical and mental health outcomes across a population. Primary care data is often an important input into the provision of PHM services.

6. Healthcare is a devolved matter, with each UK nation funding and organising its health and care services separately. Generally, GP practices will be part of a local organisation of health and care services (managed by an Integrated Care Board (**ICB**) in England, a Health Board in Wales, an NHS Board in Scotland and the Health and Social Care Board in Northern Ireland (collectively '**ICBs and Health Boards**')). ICBs and Health Boards generally procure the services described above for their local area, although for primary care EPR systems, the individual GP practices will typically have a choice of which supplier they use (from those who have been approved under the relevant procurement framework).

7. In order to be included on the NHS frameworks for primary care EPR systems, a supplier must meet a number of standards, which seek to set out required functionality and pricing, rules around the supplier's commercial behaviour, and principles relating to APIs, access to data, and interoperability (amongst other requirements). NHS England (and the equivalent bodies in each other UK nation) monitors and enforces compliance with these standards and can issue new frameworks or update standards as needed.

Our assessment

Why did we examine this Merger?

8. The CMA's primary duty is to seek to promote competition for the benefit of UK consumers, including the investigation of mergers that could raise competition concerns in the UK where it has jurisdiction to do so.

9. In this case, the CMA has jurisdiction over the Merger because the UK turnover of EMIS is in excess of our legal threshold of £70 million for its last business year.

How did we examine this Merger?

10. In deciding whether a merger may be expected to result in an SLC, the question we are required to answer is whether it is more likely than not – a

more than 50% chance – that the merger will result in an SLC within a market or markets in the UK.

11. To determine whether this is the case, we have built on the information collected during the phase 1 investigation and gathered further evidence from a wide variety of sources, using our statutory powers where necessary, to understand the potential impact of this Merger on competition in the UK.

12. During phase 2, we held site visits, formal hearings and calls with UH and EMIS to gather evidence from their senior business leaders, as well as through written submissions and requests for information, including to address questions arising as a result of the responses we received to our Provisional Findings. We reviewed a significant volume of internal business documents from each of UH and EMIS, which set out views on the relevant products and markets, future commercial strategies, and the rationale for the Merger. We held calls and sent requests for information to (current and potential) competitors in primary care EPR systems, MO software and PHM services, as well as customers and representative user groups of these products. We also obtained extensive evidence from NHS England to help us understand the relevant products and the NHS's role in shaping these markets.

13. Based on this evidence, we focused on two ways, or theories of harm, in which the Merger could give rise to an SLC. Both of these centred on whether the Merged Entity could use EMIS's position as a supplier of primary care EPR systems to harm the competitiveness of rivals supplying MO software or PHM services through partial foreclosure. We assessed these theories of harm by looking at whether the Merged Entity would have the ability to do so (eg through worsening integration with, or data access from, EMIS's primary care EPR system, or through raising costs for rivals), whether it would have the incentive to do so (ie is it financially beneficial to do so) and finally what the impact of such a strategy would be on competition in each of the MO software and PHM services markets.

What did the evidence tell us about EMIS's position as a primary care EPR supplier?

14. EMIS's position as a primary care EPR system supplier is relevant to assess its ability to harm the competitiveness of rivals in both theories of harm. Based on evidence from the Parties, competitors and NHS customers and stakeholders, we have concluded that EMIS has market power in the supply of primary care EPR systems. This is because:

(a) EMIS's market share in the supply of primary care EPR systems in the UK is 50-60%, with a similar share in each UK nation, and this has been stable over the last five years.

(b) Evidence (in particular from customers) shows switching supplier is considered a complex and risky process and can involve a large financial cost.

(c) These high switching costs are reflected in very low levels of customers switching to or from EMIS's primary care EPR system in the last five years. This low level of switching is supported by the fact that the average customer has been procuring EMIS's system for a long time.

15. NHS England told us that the existing suppliers (ie EMIS and its main rival) have an entrenched market position and that it is actively looking to stimulate new market entry. Whilst evidence suggests there will be some entry into the market in the near future, we do not consider this will be at a sufficient scale to deprive EMIS of its market power.

What did the evidence tell us about our first concern: harm to competition in the MO software market?

16. Evidence from the Parties and third parties shows that MO software requires customised integration with primary care EPR systems to compete because certain features and functionalities of the MO software would not be supported by the NHS's open APIs. Both Optum and its only current MO software rival have customised integration with EMIS Web for their products.

17. We considered a number of potential mechanisms through which the Merged Entity might be able to harm Optum's rival. These include worsening the quality of the rival's customised integration with EMIS Web, raising the cost to the rival of the customised integration, and/or worsening the rival's MO software's user interface on EMIS Web. Evidence suggests the impact of any of these available strategies on Optum's rival would be to significantly impair its ability to compete including by reducing the quality of its software, slowing product development, and raising costs.

18. We also considered whether the Merged Entity could use any commercially sensitive information shared with EMIS by Optum's MO software rival to improve its own MO offering to the detriment of the rival. We have found that some proprietary information is shared with EMIS but consider, based on the available evidence relating to the nature of this information, that its disclosure would not be capable of harming the competitiveness of the rival. For example, some of the information shared with EMIS is likely to be very

specific to the individual supplier, and so not of use to Optum, and the extent of information made available in relation to new products appears to be limited in practice. Optum is also likely to already have access to certain commercial and product information, as well as customer feedback, such that additional information of that type would unlikely hold significant value.

19. EMIS, as a primary care EPR system supplier on the NHS frameworks, is subject to a number of provisions regarding its general behaviour as a supplier, although the evidence we gathered was mixed on the extent to which the NHS would be able to intervene under specific provisions of its frameworks to prevent the Merged Entity pursuing the potential mechanisms we investigated. This is partly because the custom integration currently used for MO software sits outside some of the NHS standards and so is subject to less oversight. Whilst the NHS is therefore likely to have some ability and motivation to detect and prevent certain behaviour, we conclude that this would not be sufficient to remove the ability of the Merged Entity to harm the competitiveness of Optum's MO rival.

20. We then considered a range of both quantitative and qualitative evidence in order to determine whether the Merged Entity would have the incentive to engage in this type of strategy.

21. We considered the profits which would be gained by the Merged Entity from customers switching to Optum's MO software relative to the profits which would be lost from any customers who choose to switch away from EMIS, as well as any wider benefits or costs to foreclosure.

22. The MO software market is small, although it is expected to grow moderately over the next five years as a result of the uptake of new products. Our analysis indicates that even if a relatively high proportion of the customers who use EMIS Web and Optum's rival's MO software switch to Optum, any gains in profit would be very small. These gains would need to be set against any losses from switching away from EMIS Web, although given the low switching by primary care EPR system customers, we consider that these losses would be relatively small.

23. Our view is that the position of the NHS in this market, including its ability to influence market outcomes (such as by updating frameworks and standards) and it seeking (or the threat of it seeking) to take a broad approach to interpreting and enforcing the existing frameworks and standards reduce the incentive of the Merged Entity to engage in partial foreclosure. These broader responses are capable of further reducing any limited profits that the Merged Entity could achieve from partially foreclosing FDB. Although evidence from market participants was mixed on whether the NHS could intervene under the

standards, we saw evidence of past effective action by the NHS in areas not covered by its frameworks or standards.

24. We have not seen any evidence (including in our review of UH's internal documents related to the Merger) that Optum expected broader strategic benefits (ie beyond those considered in our assessment of lost profits) from restricting MO software rivals' access to EMIS's EPR system.

25. We also note that engaging in partial foreclosure could potentially have wider costs, such as damaging the Merged Entity's relationship and reputation with the NHS.

26. Overall, we conclude that the Merged Entity would not have the incentive to engage in partial foreclosure in the supply of MO software.

What did the evidence tell us about our second concern: harm to competition in the PHM services market?

27. Evidence from the Parties and third parties shows that primary care data held by EMIS is an important input for PHM services providers. In particular, PHM service providers' feedback indicates that this data is the most complete source of health information for PHM.

28. Evidence from the Parties and PHM services rivals shows that there are various ways to access the primary care data held by EMIS, including directly from EMIS through NHS mandated APIs or customised integration, through EXA, or indirectly through third parties such as NHS Commissioning Support Units (**CSUs**).

29. We considered a number of potential mechanisms through which the Merged Entity might be able to harm Optum's PHM services rivals. These include worsening rivals' access to data where the NHS mandated APIs are used, degrading customised integration with EMIS, and increasing the cost of EXA. The evidence we assessed on these potential mechanisms showed:

    (a) While the Merged Entity would be technically able (at least to some extent) to worsen Optum's rivals' access to data where the NHS's mandated APIs are used, evidence also suggests rivals would be likely to report this behaviour to NHS England or other bodies. NHS England told us that it would investigate all such complaints and is active in resolving any breaches of its standards. Moreover, PHM services providers had mixed views on whether the Merged Entity would engage in this behaviour in practice.

(b) We found limited evidence indicating that customised integration is currently used by PHM services providers to access data held by EMIS. Optum's rivals' views were mixed on whether customised integration is likely to be used in the future, but EMIS has only received one request to set up a customised integration in the last three years from a PHM services provider.

(c) We found that only one PHM services provider (excluding the CSUs) currently uses EXA to access data held by EMIS. While several third parties raised concerns about the pricing and strategy in relation to EXA, some of these concerns were not related to the Merger. We found that at least some customers would be protected from price increases because EXA is included on certain NHS frameworks, and NHS England would monitor and react to complaints related to price increases of EXA. NHS England also told us that it has plans to modernise its frameworks including the mandated APIs, which could further mitigate any risks associated with data access through EXA for PHM services providers.

30. Overall, we conclude that the Merged Entity would not have the ability to partially foreclose Optum's PHM services rivals.

Conclusion

31. Our conclusion is that the Merger would result in the creation of a relevant merger situation, but that it may not be expected to result in an SLC in relation to the supply of either MO software or PHM services in the UK.

Findings

1. The reference

1.1 On 31 March 2023, the Competition and Markets Authority (**CMA**) in exercise of its duty under section 33(1) of the Enterprise Act 2002 (the **Act**), referred the anticipated acquisition by UnitedHealth Group Incorporated (**UH**) of EMIS Group Plc (**EMIS**) (the **Merger**) for further investigation and report by a group of CMA panel members (the **Inquiry Group**). UH and EMIS are referred to collectively as the **Parties** or, for statements referring to the future, the **Merged Entity**.

1.2 In exercise of its duty under section 36(1) of the Act, the Inquiry Group must decide:

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

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

1.3 We are required to publish our final report by 5 October 2023.[1]

1.4 Our terms of reference, along with information on the conduct of the inquiry, are set out in Appendix A and B respectively.

1.5 This document, together with its appendices, constitutes the CMA's Final Report published and notified to the Parties in line with the CMA's rules of procedure.[2] Further information relevant to this inquiry can be found on the CMA case page.[3]

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[1] On 3 April 2023, the Parties made a request to the CMA in accordance with section 39(8A) of the Act for a period of three weeks to be disregarded for the purposes of determining the reference period, as the Parties were considering their next steps, including whether to continue with the arrangements which are the subject of the reference or whether to abandon those arrangements. On 4 April 2023, the CMA decided, pursuant to section 39(8A) of the Act, that a period of three weeks is to be disregarded for the purposes of determining the reference period and that the reference period will therefore expire on 5 October 2023.
[2] CMA rules of procedure for merger, market and special reference groups (CMA 17), Rule 11.
[3] UH/EMIS case page.

2. The Parties and the Merger

2.1 This chapter sets out an overview of:

(a) the Parties and their principal activities;

(b) the Merger; and

(c) the rationale for the Merger.

The Parties

UnitedHealth Group

2.2 UH is a multinational healthcare insurance, healthcare and health data analytics company. It earns the bulk of its revenue in the US, where it is headquartered. In the UK, UH's subsidiary Optum Health Solutions (UK) Limited (**Optum**), supplies healthcare solutions, including population health management (**PHM**) services and medicines optimisation (**MO**) software.

2.3 UH's total turnover for its financial year ending on 31 December 2022 (**FY22**) was approximately £257.9 billion,[4] of which approximately £[✂] million was generated in the UK;[5] of this, approximately £[✂] million is attributable to Optum.[6] The majority of UH's remaining UK turnover in FY22 related to its global medical insurance business.

2.4 Optum's principal activities relevant to our assessment of the Merger are:

(a) PHM services: Optum supplies PHM advisory services, which generated turnover of £[✂] million in FY22. It also supplies PHM software (and plans to develop further PHM products) but [✂].[7]

(b) MO software: Optum's main MO software (**ScriptSwitch)** generated turnover of £[✂] million in FY22. Optum [✂] from Population 360, new MO software it has recently developed. Optum also supplies Accelerate, an MO advisory service, which generated £[✂] million turnover in FY22.[8]

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[4] See UnitedHealth Group Reports Fourth Quarter and Full Year Results. Note this is an approximate conversion of revenue stated at USD324.2 billion.
[5] UH, UnitedHealth_EMIS_Response to CMA Section 109 Request dated 27 April 2023 (Submission Version).pdf, 10 May 2023, Table 9.1.
[6] UH, UnitedHealth_EMIS_Response to CMA Section 109 Request dated 27 April 2023 (Submission Version).pdf, 10 May 2023, Table 8.1.
[7] UH, UnitedHealth_EMIS_Response to CMA Section 109 Request dated 27 April 2023 (Submission Version).pdf, 10 May 2023, Table 8.1.
[8] UH, UnitedHealth_EMIS_Response to CMA Section 109 Request dated 27 April 2023 (Submission Version).pdf, 10 May 2023, Table 8.1.

EMIS

2.5 EMIS is a UK-based AIM-listed healthcare software business. It supplies a wide range of products, with the majority of its revenues generated from providing software and ancillary services to NHS customers, and its remaining revenues generated by providing business-to-business software and services to healthcare customers such as pharmacies and other healthcare technology suppliers.[9] Its products are used in a variety of healthcare settings including primary care, community pharmacy, community care, hospice, and secondary and emergency care, and it also offers an app (Patient Access) which is used by patients to make general practitioner (**GP**) appointments and to order repeat prescriptions.[10]

2.6 EMIS's total turnover for FY22 was £175.4 million[11] of which £[✂] million was generated from customers within the UK.[12]

2.7 EMIS's principal activities relevant to our assessment of the Merger are:

(a) EMIS offers a primary care electronic patient record (**EPR**) system (**EMIS Web,** or **EMIS PCS Scotland** in Scotland), which generated turnover of £[✂] million in FY22.[13] EMIS derives revenue in relation to EMIS Web from NHS customers, who use it in their primary care healthcare setting, and third party suppliers, whose products require integration with EMIS Web.

(b) EMIS supplies a data analytics platform with related products, which can be used to extract and analyse the data held on EMIS Web (**EMIS-X Analytics** or **EXA**). EMIS generated turnover of £[✂] million in FY22 from this product, which has [✂] since it was launched in October 2020.[14]

The Merger

2.8 UH intends to acquire EMIS via an all-cash offer under a court-sanctioned scheme of arrangement under the City Code for an approximate consideration of £1.2 billion.[15] The Merger was announced on 17 June 2022.

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[9] EMIS 2021 financial accounts, page 4.
[10] Final signed merger notice for the Merger sent to the CMA by Slaughter and May on 17 January 2023 (**FMN**), paragraph 3.7.
[11] See EMIS Group plc Annual report and accounts 2022, page 16.
[12] EMIS, UH EMIS - EMIS Response to RFI 9 - CONFIDENTIAL.pdf, dated 25 July 2023, page 1.
[13] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, page 14.
[14] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, Annex 2.
[15] FMN, paragraph 2.3.

2.9 The Merger was subject to approval from the Investment Security Unit in accordance with the UK's National Security and Investment Act 2021, which was obtained on 8 August 2022.

Rationale for the Merger

UH rationale

2.10 UH told the CMA that the following underpin the rationale of the Merger:[16]

(a) EMIS is an attractive investment, being historically stable and profitable;

(b) EMIS has strong recognition within the market and the NHS, a credential that would help UH build its own relationship with the NHS;

(c) Establishing credibility and a good relationship with a [✂] reputable and single-payer health organisation such as the NHS would [✂] healthcare markets [✂];

(d) The Merger is an opportunity for UH and Optum UK to share expertise with EMIS to enable EMIS Web to do more to help the NHS strategically; and

(e) More broadly, UH's mission is to help make health systems work better for everyone and the Merger allows it to further this aim by bringing high-quality and long-term capital to the NHS and the wider UK economy.

2.11 UH told the CMA that Optum's MO and PHM products services are largely irrelevant to the Merger rationale and deal valuation.[17]

2.12 UH's internal documents are broadly consistent with the stated rationale.[18] Documents produced by Optum assessing the Merger discuss using EMIS's '[✂]' with UK healthcare organisations as a foundation from which it can expand and add capabilities and services [✂],[19] and [✂].[20] These documents also mention the possibility of the Merger fostering UH's reputation in a single-payer system, [✂].[21] One document produced by UH from October 2021

[16] The Parties, Response to Issues Statement, dated 17 May, 31 May 2023, paragraphs 2.2 and 2.5.
[17] The Parties, Response to Issues Statement, dated 17 May, 31 May 2023,, paragraph 2.3.
[18] For example UH, Attachment E,1 0 [✂], [✂], UH internal document, [✂], and UH internal document, [✂].
[19] UH internal document, Attachment E,1[✂], page 2 and 9.
[20] UH internal document, Attachment E, 1 [✂], page 9.
[21] UH internal document, [✂], page 3.

assessing its [✂] identifies PHM as an area for [✂],[22] noting [✂]. EMIS is mentioned as one such option.[23]

EMIS rationale

2.13 EMIS submitted that as a listed company, it is required to put any offer to acquire the business to the board for consideration, with the most important consideration being the long-term interests of the company with respect to its corporate shareholders, customers, and employees.[24] In particular:

(a) The board, with assistance from financial advisers, considered the offer from UH to be fair and would likely create accelerated value for EMIS shareholders.

(b) EMIS is run as a cash positive business to provide security to the NHS and considered UH's investment would allow for accelerated value to customers because it would have increased resources and ability to progress potentially valuable projects it currently cannot pursue.

(c) EMIS's board considered Optum has a professional reputation in the UK and that the NHS would welcome EMIS having the benefit of the resources and reassurance of being part of UH.

[22] UH internal document, [✂], pages 4-8.
[23] UH internal document, [✂], page 7.
[24] EMIS, response to RFI 3, question 8.

3. Relevant merger situation

3.1 This chapter sets out our assessment of the CMA's jurisdiction to review the Merger.

3.2 Section 36(1) of the Act and our terms of reference require that we investigate and report on two statutory questions:

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

(b) if so, we are then required to investigate and decide on whether the creation of the RMS may be expected to result in an SLC within any market or markets in the UK for goods or services.

3.3 We address the first of these statutory questions below.

Enterprises ceasing to be distinct

3.4 The first element of the RMS test in section 23 of the Act provides that an RMS will be created if, as a result of the Merger, two or more enterprises cease to be distinct.[25]

3.5 The Act defines an 'enterprise' as 'the activities, or part of the activities, of a business' and 'business' as 'includes a professional 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'.[26] The activities of EMIS and UH are described above in paragraphs 2.2 to 2.7, and we are satisfied that in light of those activities, both EMIS and UH are businesses and their activities constitute 'enterprises' in accordance with the Act.

3.6 Section 26 of the Act provides that any two enterprises cease to be distinct if they are brought under common ownership or common control. Enterprises are in particular treated as being under common control where, among other things, one holds a majority of the voting rights in the other or one is a wholly-owned subsidiary of the other.[27]

3.7 The background to the Merger is described in paragraph 2.8. On completion of the Merger, EMIS will become an indirect wholly-owned subsidiary of UH

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[25] Section 23(1)(a) of the Act.
[26] Section 129(1) of the Act.
[27] Sections 26(2)(a) and 129(2) of the Act; section 1159 of the Companies Act 2006.

(through an acquisition vehicle, Bordeaux UK Holdings II Limited) and therefore UH and EMIS will be brought under common ownership and control.

3.8 We have therefore found that arrangements are in progress or in contemplation which, if carried into effect, will result in EMIS and UH ceasing to be distinct enterprises under the Act.

Turnover Test

3.9 The second element of the RMS test establishes whether the Merger has sufficient connection with the UK on a turnover and/or share of supply basis to give the CMA jurisdiction to investigate.[28]

3.10 The turnover test in section 23 of the Act is satisfied where the value of the turnover in the UK of the enterprise being taken over exceeds £70 million.[29] As described at paragraph 2.6, EMIS's UK turnover for FY22 (of £[✂] million)[30] exceeds £70 million. Therefore, we have found that the turnover test is met. We are not required to consider whether the share of supply test is also satisfied.

Conclusion on the RMS

3.11 In light of the above, we have found that the Merger constitutes arrangements in progress or in contemplation which, if carried into effect, will result in the creation of an RMS. This means that the CMA has jurisdiction to review the Merger. Accordingly, we must consider whether the creation of that situation may be expected to result in an SLC within any market or markets in the UK for goods or services.[31]

[28] Section 23 of the Act.
[29] Section 23(1)(b) of the Act.
[30] EMIS, UH EMIS - EMIS Response to RFI 9 - CONFIDENTIAL.pdf, dated 25 July 2023, page 1.
[31] Section 36(1)(b) of the Act.

4. Industry background

4.1 This chapter sets out an overview of the Parties' relevant products, how they are procured, and how parties access NHS primary care data.

The products

4.2 EMIS supplies primary care EPR systems. Optum supplies both MO software and PHM services.

4.3 **Primary care EPR systems** allow GPs to manage appointment bookings, conduct patient consultations, and update, store and share patient records. The primary care EPR system is important because it holds all of the patient data for the GP practice.

4.4 **MO software** suggests alternative medicines to GPs in order to increase the effectiveness and reduce the costs of treatment. For it to function, it needs to interact with the primary care EPR system, including to provide prompts to GPs at appropriate points in the prescribing workflow.

4.5 **PHM services** encompass a broad range of products and services that use data analytics to improve physical and mental health outcomes across a population. Primary care data, alongside other health related data (such as community care data, secondary care data and mental health care data) is an important input in the provision of PHM services, but the type of data used can be wide-ranging and include factors such as housing, employment and education.

4.6 A further product relevant to our assessment is the new cloud-based data analytics system supplied by EMIS in England only.[32] EMIS-X Analytics, or EXA, contains a near 'real time' copy of the data stored on EMIS's primary care EPR system, EMIS Web,[33] and the EXA Explorer product was designed for the purpose of exploring, querying, and analysing primary care data held by EMIS Web.[34] EMIS charges users a fee[35] for EXA Explorer.[36] For NHS customers, this fee is subject to a price cap in accordance with the NHS DCS

[32] FMN, paragraph 12.20.
[33] Optum, Optum / EMIS 51213 - UH_EMIS_Response to RFI 1_14 October 2022.pdf, paragraph 7.2.
[34] EMIS, Optum / EMIS phase 2 51213-2 - UH - EMIS - Third Submission to the First EMIS Section 109 Request.pdf, dated 4 October 2022, 14 October.
[35] EMIS is not able to charge for access to the data but is able to charge for providing value-adding services, such as manipulation of NHS data.
[36] Optum, response to RFI 5, paragraph 6.3 and see also FMN, footnote 199.

Catalogue Agreement (discussed from paragraph 4.17).[37] In this Report we refer to EXA and the EXA Explorer product as **'EXA'**.

4.7 The Parties estimate the total UK primary care EPR system market size was [£100-200 million] in 2022.[38] The MO software market is much smaller – the Parties estimate that total MO revenues in the UK were [£10-20 million] in 2022.[39] PHM services are evolving and many ICBs (or other relevant NHS entities) are currently procuring PHM services for the first time.[40] Estimates of the size of the PHM market vary depending on what is considered to be included as PHM. The Parties estimate that total PHM revenues in the UK were between [£60-70 million] and [£300-400 million] in 2022[41] and competing PHM suppliers provided a range of estimates, from between [£100-200 million][42] to [300-400 million].[43]

4.8 Primary care EPR systems are already implemented as a foundational requirement for NHS GP practices. Consequently, any market growth in this area is not expected to be substantial. EMIS predicts a modest growth in its revenue derived from the primary care sector, rising from £[✂] in 2023 to £[✂] in 2026.[44] In relation to MO software, Optum expects an increase in revenue from its MO products from £[✂] in 2023 to £[✂] in 2027.[45] Across the same time period, a rival MO software supplier told us it expects an increase from £[✂] to £[✂].[46] The Parties told us they do not expect the PHM market to expand significantly.[47] However, other third parties we spoke to generally expected the market for PHM to continue to grow in the future. The Government's 'Plan for digital health and social care' includes a target for all ICSs to have implemented a 'population health and planning data platform, and business intelligence tools' by the end of 2023.[48] Anticipated growth of the MO market is discussed in more detail in the *Competitive Assessment* chapter.

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[37] Parties, annotated response to the Background and Market definition working paper paragraph 1.6 (ii).
[38] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, question 12. The Parties market share estimates for the UK have been prepared on the basis that all EMIS and competitor primary care revenue is allocated to EPR.
[39] UH, Optum / EMIS phase 2 51213-2 - UnitedHealth_EMIS_Response to CMA Section 109 Request dated 27 April 2023 (Submission Version)(581417461.7) (004)(581424970.1).pdf, response to question 13.
[40] Parties, response to RFI 3, paragraph 12.5.
[41] Parties, annotated response to the Background and Market definition working paper.
[42] [✂].
[43] [✂].
[44] EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.This includes all revenue from primary care and not just EPR systems.
[45] Optum's Response to Question 11, P2 1st S109 11th May 2023.
[46] [✂].
[47] Conclusion in the Parties annotated response to the Background and Market definition working paper, paragraph 4.
[48] A plan for digital health and social care - GOV.UK (www.gov.uk). ICS stands for Integrated Care Systems, which are explained in paragraph 4.10(a).

4.9 Further details on each of the products are provided in the *Market Definition* chapter, with details of the suppliers of the products and their positions in the markets provided in the *Competitive Assessment* chapters.

Procurement

4.10 Healthcare is a devolved matter, with each UK nation funding and organising its health and care services separately:

(a) In **England**, there are 42 statutory Integrated Care Systems (**ICS**), which are 'partnerships of organisations that come together to plan and deliver joined up health and care services'.[49] Each ICS has an Integrated Care Board (**ICB**), that manages the NHS budget and arranges for the provision of health services in its area.[50]

(b) In **Wales**, there are seven local Health Boards which are responsible for planning and delivering NHS services in their areas and three NHS Trusts which look after public health, ambulance services as well as cancer and blood services.[51]

(c) In **Scotland**, there are 14 regional NHS Health Boards, seven Special NHS Boards with specific additional remits, and one public health body.[52]

(d) In **Northern Ireland**, the Health and Social Care Board works in partnership with Northern Ireland's Public Health Agency to commission services, allocate resources and improve services across Northern Ireland. It is supported by five local commissioning groups that are geographically linked to five health and social care trusts.[53]

4.11 In England, it is ICBs that procure primary care EPR systems, MO software and PHM services although they are not necessarily the entity that decides which product is actually used or the user of each of these products:

(a) For PHM services, ICBs and NHS England are the main users and decisions about which PHM services to procure are taken at the ICB level.[54] Whilst some GP practices told us they believe that PHM software will bring a lot of value to practices by helping to tailor services and better

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[49] NHS England » What are integrated care systems?.
[50] ICBs were established on 1 July 2022 and replaced clinical commissioning groups (CCGs).
[51] NHS Wales health boards and trusts | GOV.WALES.
[52] Health workforce - gov.scot (www.gov.scot).
[53] There is also a sixth trust in Northern Ireland, The Northern Ireland Ambulance Service Health and Social Care Trust (see Digital Health and Care Northern Ireland - DOH/HSCNI Strategic Planning and Performance Group (SPPG) – formerly HSCB).
[54] FMN, paragraph 3.6 – Optum's main PHM customers are ICBs and they have [✂] with NHS England.

manage high levels of demand, GP practices do not typically input into decision making on PHM.[55]

(b) For MO software, ICBs will decide which product to procure, and they have the primary interest in the use of MO software since they ultimately have the responsibility for managing budgets related to medicines.[56] Although GP practices use the MO software, they typically have little or no input into which MO software is used at their practice.[57]

(c) For primary care EPR systems, GP practices are the users and have more control over which system they use. ICBs told us that they discuss procurement with GP practices,[58] and as part of the national GP Contract all GP practices have the right to select which systems they use from a list of approved GP clinical systems.[59] GP practices can decide (without needing the ICBs consent) to switch primary care EPR systems during the term of an existing contract.[60] An ICB told us ICBs have no right to direct GP practices to use a specific GP clinical system.[61] However, we understand that GP practices may come under pressure from ICBs or Primary Care Networks (**PCNs**)[62] to procure the same primary care EPR system as the rest of the practices in their area.[63] Some GP management companies direct their individual GP practices to use specific systems, and this can result in a system change if a particular GP practice is taken over by a new management company.[64]

4.12 Procurement is broadly similar across the devolved nations:

(a) In Scotland, National Services Scotland (**NSS**) is responsible for procuring primary care EPR systems on a framework and managing the Call-Off Contracts on behalf of Health Boards.[65] They are also responsible for nationwide procurement of MO and PHM.[66]

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[55] [✂].
[56] [✂].
[57] [✂].
[58] [✂].
[59] [✂].
[60] FMN, paragraph 23.34.
[61] [✂].
[62] PCNs are groups of GP practices working together with community, mental health, social care, pharmacy, hospital and voluntary services in their local areas. There are 1,250 PCNs across England, and they typically serve natural communities of between 30,000 to 50,000 people. Over 99% of general practices are part of a PCN.
[63] [✂].
[64] [✂].
[65] General Practice (GP) surgeries switching their IT systems framework: FOI release - gov.scot (www.gov.scot).
[66] [✂].

(b) In Wales, Digital Health and Care Wales (DHCW) manages the framework for primary care EPR system procurement[67] and NHS Wales Shared Services Partnership (**WSSP**)[68] supports procurement of MO software by Health Boards.[69] Cwm Taf Morgannwg University Health Board has a Population Health and Partnerships Committee overseeing PHM work to provide an evidence base to inform the national rollout of PHM across Wales.[70]

(c) In Northern Ireland, the Northern Ireland Strategic Planning and Performance Group, part of the Department of Health, is responsible for procuring primary care EPR systems on behalf of GP practices.[71] The Business Services Organisation is responsible for creating frameworks.[72] Health and Social Care Northern Ireland procures MO software for GP practices in Northern Ireland[73] and has solicited bids for PHM.[74]

Factors influencing customer choice

4.13 Evidence from customers suggests that reliability, customer support and functionality are the most important features they consider when choosing their primary care EPR system. They must also consider the ease of interoperability with other software in that location.[75]

4.14 For MO software, the Parties identified price, functionality, end user experience and customer support as key factors influencing the customers' choice.[76] In addition to these factors, interoperability and compatibility with EPR systems was considered an important factor by many ICBs.[77]

4.15 A PHM tender bid document between Optum and an ICB shows a range of technical criteria that suppliers were ranked on. These included previous experience, approach to key stakeholder engagement, use of data and the understanding of existing data systems and flows.[78] Based on ICB responses, the main factor driving the choice of PHM services is the ability of the provider

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[67] FMN, paragraph 23.14 and About Digital Health and Care Wales - Digital Health and Care Wales (nhs.wales).
[68] [✂].
[69] FMN, paragraph, 23.9.
[70] Microsoft Word - 5.2 Population Health Management PHP Committee May 2023 v1 (nhs.wales).
[71] FMN, paragraph 23.14, footnote 262.
[72] EMIS GP System of Choice (GPSoC) [Award] (bidstats.uk).
[73] Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 - 17 May (Tranche 3).pdf, paragraph 34.1.
[74] [✂].
[75] [✂].
[76] FMN, paragraph 23.11.
[77] Customer Questionnaires - Summary Sheet.xlsx. ICBs and customers that responded to our questionnaire also reported considering return on investment, ease of use and staff training as factors they may consider when procuring MO software.
[78] [✂].

to drive value for money for the ICB. One ICB told us contracts will be awarded based on a range of factors designed to identify value for money, which can include price, quality, cultural fit, expertise and ability to support development of the ICB.[79] Another ICB told us when it previously procured PHM products, it evaluated the bids by weighting the price at 60% and the quality at 40%.[80] Another PHM customer told us it typically weights quality (made up of functional and technical requirements) at 70% and price at 30%.[81]

Procurement of primary care EPR systems

4.16 Primary care EPR systems are procured under a framework agreement,[82] a form of tendering contract which aims to establish arrangements over the medium to longer term. The NHS can include multiple suppliers simultaneously on a single framework agreement, and customers can either directly call-off from the framework or run a mini-competition. These frameworks differ across the UK nations.

Procurement in England

4.17 NHS England is responsible for procuring primary care EPR systems in terms of the broad public procurement process (for example, admitting solutions to the Digital Care Services (**DCS) Catalogue** and frameworks). ICBs are responsible for calling-off those frameworks to purchase EPRs for use by individual GPs.[83]

4.18 Primary care EPR systems are procured under the DCS Catalogue which is a catalogue of GP IT Solutions in England.[84] There are currently two frameworks[85] from which primary care EPR systems can be procured, the GP Information Technology Futures (**GP ITF**) framework and the Tech Innovation Framework (**TIF**):

(a) The GP ITF framework was introduced in January 2020 to replace the previous GP Procurement Framework and includes clinical IT

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[79] [✂].
[80] [✂].
[81] [✂].
[82] FMN, paragraph 20.8, footnote 179.
[83] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Annotated Response to Background and Market Definition Working Paper (19 July 2023).pdf, dated 3 July 2023, 20 July 2023, paragraph 1.12.
[84] Digital Care Services catalogue - NHS Digital.
[85] In addition to the TIF and ITF, we understand the NHS will soon introduce a set of frameworks called the Digital Services For Integrated Care Suite of Frameworks. See Digital Services For Integrated Care Suite of Frameworks - Find a Tender (find-tender.service.gov.uk).

systems/services.[86] There are currently only three primary care EPR system suppliers on this framework: Cegedim, EMIS, and TPP.

(b) The TIF was introduced in November 2022 with the aim of encouraging competition and promoting innovative primary care EPR systems. EMIS Web is currently registered on the TIF framework and expects to also list a new browser-based product (EMIS-X GP).[87] Seven other suppliers are also listed: Eva Health Technologies, John White PM, Medicus Health, Ouris Health, Oxford Digital Health, Telstra and The Flame Lily Healthcare (CheckUp Health).[88] The Parties told us that one of these suppliers is currently supplying under the TIF with others to follow soon,[89] and NHS England similarly told us it expects services will start being supplied under this framework over the next year.[90] Cegedim told us it also intends to provide a primary care EPR system on this framework in 2024.[91] TPP told us it has no plans to register on the TIF.[92]

4.19 In order to be included on the GP ITF a supplier must meet the 'Overarching Standards', 'Interoperability Standards', and any 'Capability-Specific Standards'. The Overarching Standards include the 'Commercial Standard', which underpins all commercial activity relating to the DCS Catalogue by defining a number of rules governing the commercial relationship of relevant parties and by setting out standards of behaviour and principles of access to data and services charges.[93] [94] The Interoperability Standard includes requirements relating to integration and interoperability, including Interface Mechanism 1 (**IM1**),[95] a mechanism with different use cases for accessing

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[86] The GP ITF is now closed but the framework is continuing to operate for pre-existing call off contracts which are still running in parallel with the TIF until a new framework is developed. See: GP IT Futures systems and services - NHS Digital.
[87] FMN, 20.11, and [✂].
[88] FMN, paragraph 21.3.
[89] The Parties, Response to WPs, Annex 1 'UH_EMIS_Annex 1 to the Annotated Response to the Market Power Working Paper (Constraints in the Primary Care EPR Systems Market).pdf', paragraph 7.6.1.
[90] [✂].
[91] [✂].
[92] [✂].
[93] Commercial - Digital Care Services (DCS) Capabilities & Standards - Confluence (atlassian.net)
[94] For example, the Commercial Standard includes the 'Market Responsibility Provisions', the purpose of which is stated to be 'to protect the NHS in respect of supply resilience and sustainability, value for money and provision of service quality, market fairness and unconstrained customer choice' (paragraphs 36 to 42). The Market Responsibility Provisions include specific provisions designed to address 'predatory market pricing' and 'targeted service deterioration'. The Market Responsibility Provisions apply to suppliers 'classified as exerting significant influence on the technical and commercial environment, such that their actions may be generally market affecting (or otherwise affect public wellbeing)'. EMIS has been classified as a qualifying supplier for the purpose of these provisions. The Commercial Standard also includes provisions on 'Access to Data and Commercial Treatment of Systems Interfaces' which provide, amongst other requirements, that 'Suppliers shall not obtain profit or other commercial benefit from unreasonably delaying or excluding any potential Consumer Supplier's access to NHS Data through available Interfaces, where a Consumer Supplier can demonstrate appropriate data controller/owner permissions, technical conformance and expected adherence to the terms of the relevant Interface Licence' (paragraph 17).
[95] Interoperability Standard - Digital Care Services (DCS) Capabilities & Standards - Confluence (atlassian.net)

data held in primary care EPR systems.[96] Capability Standards govern the six 'Foundation Capabilities' (including appointment management, referrals and prescribing) required for a primary care EPR system under the DCS Catalogue agreement.[97] These standards and the enforcement of them is discussed further in Chapter 9 at '*The role of the NHS'*, but ultimately NHS England has the power to suspend or remove a supplier from the DCS Catalogue in the event of non-compliance.

4.20 Procurements through the GP ITF have an initial term of 12 months. If not terminated at that point, the contract continues until 48 months from the commencement date (unless terminated sooner). Call-off agreements under this framework can be terminated unilaterally by the ICB without cause with 30 days' notice.[98]

4.21 The price of primary care EPR systems is capped by the GP ITF, currently at £1.26 per patient per annum.[99] Although suppliers are free to discount below this price[100] all suppliers are currently charging the full per patient price.[101] Suppliers are permitted to charge additional costs for add-on services, such as enabling primary care EPR system access on mobile devices, and these charges vary from supplier to supplier.[102] Suppliers are also able to charge for services including data sharing agreements, interoperability with other software, and data analytics.[103] A third party told us that add on fees mean that EMIS Web was considerably more expensive for their practices than alternative primary care EPR systems.[104]

4.22 NHS England views the current primary care EPR system market as unsuitable for enabling new entrants because the fee paid to EPR suppliers is too low to offset the cost of development whereas EMIS and TPP's primary care EPR systems are financially viable because they have been operating for a long time. The length of time the legacy systems have been in service means that they have also built a significant amount of technical debt[105] and the TIF framework was introduced to overcome this problem.[106]

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[96] IM1 - Interface Mechanism - Digital Care Services (DCS) Capabilities & Standards - Confluence (atlassian.net)
[97] GP IT Futures Capabilities & Standards - Confluence (atlassian.net) Also see Introduction to Capabilities and Standards - GP IT Futures Capabilities & Standards - Confluence (atlassian.net)
[98] FMN, paragraph 23.17.
[99] FMN, paragraph 23.15, Footnote 264.
[100] FMN, paragraph 23.15.
[101] Vision: List price (digital.nhs.uk), EMIS: List price (digital.nhs.uk), TPP: List price (digital.nhs.uk).
[102] Additional Services are add-ons that provide additional functionality to a Catalogue Solution for an extra cost. Additional Services (digital.nhs.uk).
[103] [✂].
[104] [✂].
[105] In software development, technical debt is the implied cost of future reworking required when choosing an easy but limited solution instead of a better approach that could take more time.
[106] [✂].

4.23 The TIF has a narrower scope of required functionality, which makes it simpler for suppliers to enter the market, and was designed for suppliers to provide as a minimum, six core modules of the primary care EPR system.[107] Suppliers on the TIF must meet the Technology Innovation Standard in addition to some of the standards of the GP ITF framework.[108] These standards are designed to modernise core clinical systems for primary care by making it easier for health systems to work together, increase standardisation and allow systems to be used on different devices across care settings.[109] One of the standards required is for products to be cloud and web browser based.[110] Overall, this simplified specification is designed to reflect modern working patterns and care delivery.[111] NHS England view the TIF as a way of both stimulating new entry and weakening the hold the legacy systems have on the market by requiring standards of innovation and new forms of data storage, distribution, and analysis.[112]

Procurement in other UK nations

4.24 On 1 February 2019 NSS awarded a new 'GP IT Managed Services' framework agreement to EMIS, INPS (now Cegedim), and Microtest (now Eva). However, EMIS and Eva have not developed their services to meet the Scottish requirement and have therefore not become 'live' on the framework.[113] The provision of EMIS PCS Scotland to existing customers will end in 2026.[114] Scottish GP practices, which are currently in the process of migrating to the new contracts, are therefore left with only one choice, Cegedim.[115] Despite these differences in requirements, the Parties told us that in substance, the regulatory position in Scotland is the same as it is in England.[116]

4.25 In Wales, primary care EPR systems are procured by Health Boards via the GP Services Framework Agreement. We understand that the Parties consider the regulatory position of the NHS to be the same in England and Wales.[117] In particular, the Parties told us that the standards that primary care EPR

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[107] [✂].
[108] Primary Care Technology Innovation Standard - Digital Care Services (DCS) Capabilities & Standards - Confluence (atlassian.net)
[109] Primary Care Technology Innovation Standard - Digital Care Services (DCS) Capabilities & Standards - Confluence (atlassian.net).
[110] Optum / EMIS phase 2 51213-2 - UH - EMIS - Third Submission to the First EMIS Section 109 Request.pdf - Documents (sharepoint.com), paragraph 17.10.
[111] Optum / EMIS phase 2 51213-2 - UH - EMIS - Third Submission to the First EMIS Section 109 Request.pdf - Documents (sharepoint.com), paragraph 17.07
[112] [✂].
[113] [✂].
[114] FMN, paragraph 12.7.
[115] [✂].
[116] FMN, footnote 179.
[117] FMN, footnote 179.

systems need to comply with in England as part of GP ITF framework are incorporated in the GP Services Framework Agreement – the framework from which EMIS is procured in Wales.[118]

4.26 GP practices in Northern Ireland are currently procuring primary care EPR systems from EMIS,[119] Cegedim[120] and Merlok[121] under the GP System of Choice (GPSoC) tender. In 2023 it is expected that Northern Ireland's frameworks will align with the GP ITF Framework used in England.[122]

4.27 A rival primary care EPR supplier also told us that the frameworks under which primary care EPR systems are procured are very similar across the devolved nations.[123]

Procurement of MO software

4.28 MO software is procured by ICBs and Health Boards, and most have been purchasing MO software for around 10 years.[124]

4.29 Optum told us MO software can be procured from itself and a rival supplier First Databank (**FDB**) either:[125]

(a) directly (often via renewals with existing customers);

(b) under an existing framework agreement;

(c) via a formal tender process; or

(d) via an internal procurement exercise (an informal tender process).

4.30 MO software products can be procured in England under the NHS Shared Business Services Framework (**SBS**), which includes only OptimiseRx and ScriptSwitch,[126] and through the G-Cloud framework, which is a broader framework covering a range of solutions sold to the government.[127] As well as OptimiseRx and ScriptSwitch, the G-Cloud framework includes FDB's AnalyseRX and Optum's Population360 products, as well as two further suppliers (Ardens Health Informatics Limited and ExpertRX Limited).

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[118] FMN, footnote 179.
[119] EMIS GP System of Choice (GPSoC) [Award] (bidstats.uk)
[120] Cegedim GP System of Choice (GPSoC) | Stotles
[121] Merlok GP System of Choice (GPSoC) | Stotles
[122] EMIS GP System of Choice (GPSoC) [Award] (bidstats.uk).
[123] [✂].
[124] FMN, para 23.9.
[125] UH, 20230616 - Optum's consolidated response to s109 1, dated 27 April 2023, 17 April 2023, question 32.
[126] See Medicines Management Prescribing Decision Support Systems 2 - NHS SBS. This framework is due to end on 31 March 2024.
[127] G-Cloud 13 - CCS (crowncommercial.gov.uk), 230510;_Call Note_FDB.docx, paragraphs 40 – 41.

4.31 Evidence from Optum shows that for 2022, [✂] its UK customers procured MO software via SBS or the G-cloud framework.[128] [✂] customers procured its MO software through a direct award and [✂] via a tender process.[129] A third party told us that the value of the contract determines whether the customer procures directly or via a competitive process through the framework. Over a certain value, customers must procure through a framework.[130]

4.32 In Wales, Health Boards procure MO software through an exercise with the WSSP.[131] MO software is procured through the SBS framework or by direct award.[132]

4.33 In Scotland, NSS procured a national subscription agreement with Optum for ScriptSwitch. The current agreement is until [✂] and covers the majority of practices in Scotland. NSS National Procurement manages this contract on behalf of the NHS Health Boards.[133]

4.34 In Northern Ireland, MO software is procured by Health and Social Care Northern Ireland. [✂][134] and MO software is only supplied by FDB.[135]

4.35 MO software contracts usually range from one to three years in length.[136] Across England, Scotland and Wales, the typical price paid by customers for ScriptSwitch per patient a year is £[✂] to £[✂].[137] The typical price for OptimiseRx via the G-Cloud 13 framework is £0.31 to £0.34 per patient a year.[138]

Procurement of PHM services

4.36 ICBs in England and NHS bodies in the devolved nations[139] procure PHM products and services for use across their local healthcare system. Individual

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[128] See Parties Data (MO,EPR).xlsx based on UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 - 17 May (Tranche 3).pdf (sharepoint.com) response to Q32.
[129] See Parties Data (MO,EPR).xlsx based on UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 - 17 May (Tranche 3).pdf, response to Q32.
[130] [✂].
[131] [✂].
[132] Response to Q6, 1st S109 Parties Data (MO,EPR).xlsx.
[133] [✂].
[134] UH, [✂].
[135] UH, Optum / EMIS phase 2 51213-2 – UnitedHealth_EMIS_Response to CMA Section 109 Request dated 27 April 2023 (Submission Version)(581417461.7) (004)(581424970.1).pdf, Table 13.5
[136] FMN, paragraph 23.10.
[137] Based on CMA analysis of the Optum revenue per contract divided by number of patients covered. UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 – 17 May (Tranche 3).pdf.
[138] FDB OptimiseRx – Digital Marketplace.
[139] A PHM services supplier told us PHM is procured centrally in the devolved nations [✂].

hospital trusts also procure PHM products[140] and PHM may also be procured by NHS England for national projects.[141]

4.37 One ICB told us it aims to use frameworks to procure PHM services but will use open competitive tenders to procure when needed.[142] Another ICB told us that it would use one of the national frameworks (such as G-Cloud) to award contracts.[143] CMA analysis of Optum's customer data[144] shows its customers (almost all of which have been in England)[145] used a range of procurement methods to procure Optum's PHM products and services: [✂].

4.38 NHS England is responsible for national PHM procurement exercises including the creation of the Federated Data Platform (**FDP**).[146] A PHM services provider told us that it expected a lot of new PHM tools to be built and procured around the FDP, with the possibility of more business-to-business procurement of PHM products or components.[147]

4.39 In Scotland, the PHM procurement mechanisms are similar to those in England. NSS procures PHM services either directly from a compliant framework agreement or via competitive tender. All competitive tendering is published on Public Contracts Scotland and Find a Tender and follows a set procedure.[148]

4.40 As PHM is less developed in Wales and Northern Ireland, we have less evidence on procurement processes in those nations.

4.41 A PHM services competitor told us Scotland, Wales and Northern Ireland had centralised purchasing of PHM products in contrast to the English structure of less centralisation and more regional buyers.[149]

4.42 Pricing for PHM contracts is typically determined through the procurement process. A PHM services competitor told us that the prices of its PHM

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[140] [✂].
[141] [✂].
[142] [✂].
[143] [✂].
[144] UH, UH_EMIS_Response to the CMA's s.109 dated 27 April 2023_Annex 1.xlsx, question 23, Parties Data (EXA, PHM).xlsx.
[145] FMN, para 12.16.
[146] The FDP is an NHS England project aimed at providing hospital trusts and ICSs with a platform that will allow them to connect and share information between them. One of the key priorities this solution is aimed at supporting is PHM. NHS England is currently procuring the FDP and associated services and is working towards awarding the contract in Autumn 2023 – see NHS England » Procurement.
[147] [✂].
[148] As prescribed by The Public Contracts (Scotland) Regulations 2015. [✂].
[149] [✂].

products are negotiated with the commercial team of the NHS body procuring its product.[150]

Access to data

4.43 NHS primary care data is stored within primary care EPR systems, which includes personal patient details, GP appointments, personal medical history, records of hospital referrals and what medicines have been prescribed for the patient. Primary care EPR systems are the custodians of NHS patient data, although the patient data belongs to the NHS. Any party (including NHS bodies) that requires primary care data relies on primary care EPR systems for data access and/or extraction. Data protection laws apply to this data and govern the processing and transfer of the data, and there are additional safeguards put in place by the NHS.

4.44 Under General Data Protection Regulation rules, the 'data controller' for primary care EPR data is the GP practice. It is the GP practice that is therefore responsible for the patient data stored on primary care EPR systems and that exercises overall control over the purposes and means of the processing of personal data.[151] The primary care EPR systems themselves are 'data processors' and act on behalf of, and only on the instructions of, the relevant data controller. While the data processors will know the origin of data when they receive it, it is data controllers that need to put in place the data sharing and processing agreements which allow other processors to access clinical information.[152]

4.45 Data is often transferred using application programming interfaces (**APIs**). The GP ITF and TIF frameworks described at paragraph 4.19 above, which govern the commercial and service conduct of suppliers, include minimum standards in relation to APIs (including IM1).

4.46 IM1 establishes minimum standards and capabilities that primary care EPR system providers must offer in order for suppliers to access/extract the primary care data. A primary care EPR system supplier is compensated by the NHS for operating these interfaces, with the fee depending on the number of connections they have.[153] Custom APIs are also used, whether for historical reasons (ie they pre-date IM1) or because they provide additional functionality. Irrespective of the method chosen, suppliers who need to interoperate with primary care EPR systems do not pay for the data itself but,

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[150] [✂].
[151] FMN, paragraph 20.7, Footnote 178.
[152] FMN, paragraph 20.18, Footnote 179.
[153] FMN, paragraph 20.18, Footnote 179.

depending on the type of connection (ie if it is outside IM1), some might pay for the development and maintenance of the connection, or for other related services.

4.47 In England, NHS England's responsibilities include 'designing and operating national data infrastructure and digital systems'.[154] This includes the enforcement of a number of contractual frameworks that govern the provision of IT services for NHS primary care, including how data is stored and transferred.

4.48 The devolved nations have their own bodies responsible for data and digital services. In Scotland there is Digital Health & Care Scotland,[155] in Wales, Digital Health and Care Wales is responsible,[156] and in Northern Ireland Digital Health and Care Northern Ireland is the data and technology lead to the Health and Social Care system.[157]

[154] On 1 February 2023 Health Education England, NHS Digital and NHS England merged into a single organisation. Detail as to the prior operation of NHS Digital and the goals of the newly merged NHS England are provided here; Protecting and safely using data in the new NHS England – NHS Digital.
[155] About Us – Digital Healthcare Scotland (digihealthcare.scot).
[156] About Digital Health and Care Wales – Digital Health and Care Wales (nhs.wales).
[157] Digital Health and Care Northern Ireland – DOH/HSCNI Strategic Planning and Performance Group (SPPG) – formerly HSCB.

5. Counterfactual

5.1 This chapter sets out our approach to the relevant counterfactual against which to assess the Merger.

5.2 The CMA assesses a merger's impact relative to the situation that would prevail absent the merger (ie the counterfactual). For anticipated mergers, the counterfactual may consist of the prevailing conditions of competition, or conditions of competition that involve stronger or weaker competition between the merger firms than under the prevailing conditions of competition.[158]

5.3 The CMA's conclusion on the counterfactual does not seek to ossify the market at a particular point in time, and an assessment based on the prevailing conditions of competition can reflect that, absent the merger, a merger firm would have continued making investments in improvements, innovations, or new products.[159]

5.4 The Parties have not submitted any alternative counterfactual to the prevailing conditions of competition.[160] We have not received any evidence that indicates that our competitive assessment should be based on a counterfactual other than the prevailing conditions of competition.

5.5 Our conclusion is that the most appropriate counterfactual against which to assess the Merger is the prevailing conditions of competition.

[158] Merger Assessment Guidelines (CMA129), March 2021 (MAGs), paragraph 3.2.
[159] MAGs, paragraph 3.3.
[160] FMN, paragraph 11.1.

6. Market definition

6.1 This chapter sets out our assessment of the appropriate product and geographic markets.

6.2 Where the CMA makes an SLC finding, this must be 'within any market or markets in the United Kingdom for goods or services'.[161] The CMA is therefore required to identify the market or markets within which an SLC exists. An SLC can affect the whole or part of a market or markets. Within that context, the assessment of the relevant market is an analytical tool that forms part of the analysis of the competitive effects of a merger and should not be viewed as a separate exercise.[162]

6.3 Market definition involves identifying the most significant competitive alternatives available to customers of the merger firms and includes the sources of competition to the merger firms that are the immediate determinants of the effects of the merger.[163]

6.4 While market definition can sometimes be a useful tool, it is not an end in itself. The boundaries of the market do not determine the outcome of the analysis of the competitive effects of the merger, as it is recognised that there can be constraints on merging parties from outside the relevant market, segmentation within the relevant market, or other ways in which some constraints are more important than others.[164] We will take these factors into account in our competitive assessment.

Market for Primary care EPR Systems

Product market

6.5 Primary care EPR systems allow GPs to manage appointment bookings, conduct patient consultations, and update, store and share patient records. It is an essential piece of software for running a practice, and each GP practice will use one, as it holds all the patient data for the GP practice and is used in every appointment.

6.6 Primary care EPR system functionality is largely defined by NHS contractual requirements. Whilst these requirements can vary between UK nations (as discussed further below in relation to the geographic market), the core

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[161] Section 36.1(b) of the Act.
[162] MAGs, paragraph 9.1.
[163] MAGs, paragraph 9.2.
[164] MAGs, paragraph 9.4.

capabilities required from a primary care EPR system are common across all four nations of the UK.[165] The requirements typically include security, data protection and clinical safety standards as well as requirements for core functionality. Key elements of a primary care EPR system are scheduling, patient record, data capture and prescribing. Primary care EPR systems include mandatory safety features that support GPs when prescribing medicines (these include allergy checks, contraindications, and drug-to-drug interactions),[166] but this is not equivalent to the functionality of MO software discussed below.

6.7 EPR systems are also used in other healthcare settings, including hospitals, mental health care, community care and hospices, but the systems used there have distinct functionalities (which are set out in the different NHS frameworks) so are not substitutable to those used by GPs.[167] Additionally, the suppliers and shares of supply are different for EPR systems used in different settings.[168]

6.8 The Parties submitted that the relevant market is the provision of EPR systems for primary care.[169] They noted that GP practices have a single primary care EPR at any one time and the practices do not select components from different EPR systems or different EPR suppliers. The Parties submitted that there is not any further sub-segmentation of primary care EPR systems which could be made.[170]

6.9 None of the ICB and Health Board customers who responded to our questionnaire reported expecting GP practices to consider any other primary care EPR suppliers other than EMIS, TPP, Cegedim and the new entrants on the TIF,[171] evidencing that customers only consider specialist primary care EPR system suppliers and not EPR systems developed for use in different settings.

6.10 Our conclusion, in line with the Parties' submission, is that the relevant product market is primary care EPR systems.

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[165] The Parties annotated response to the Background and Market definition working paper, 19 July 2023, paragraph 2.6.
[166] FMN, paragraph 12.27.
[167] Based on EMIS's submissions, we understand that the EPR systems used in community care and hospice care may be relatively similar to the EPR systems used by GPs, but they still have different functionalities to meet specific requirements – see EMIS's response to RFI 10, question 1, '20230905 FINAL – RFI 10 EMIS', 7 September 2023, paragraphs 1.5-1.6.
[168] FMN, paragraph 14.3. For example, EMIS estimates that it would only have a share of [10-20%] [✂] for the EPR systems for healthcare purposes in the UK compared with a share of [50-60%] of the provision of EPR systems to the primary healthcare sector in the UK.
[169] FMN, paragraph 13.6.
[170] FMN, paragraph 12.8.
[171] ICB and Health board customer questionnaire responses.

Geographic market

6.11 The Parties submitted that previous cases involving healthcare software have suggested that the market is at least national as it is important for market players to have a local (ie within UK) presence, as well as an understanding of the nature of the UK healthcare market.[172]

6.12 In the phase 1 decision the CMA found that primary care EPR systems are devised and developed for use specifically in an NHS primary care setting, and reflect the medicine prescribing and dispensing systems that are in place in the UK as well as other specific needs of the NHS such as shared care records. Evidence we have received at phase 2 continues to suggest that there are no reasons for broadening the market beyond the UK. In particular, one third party is currently in the process of adapting the EPR system that it supplies in Australia to enable it to offer a primary care EPR system in the UK. This has been a lengthy process and required significant investment, including retrofitting to meet the NHS's standards and tailoring the product to the way primary care works in the UK.[173]

6.13 There is some evidence consistent with the geographic market being narrower than the UK. On the demand side, the differing procurement processes and framework requirements across the UK nations have the potential to create differences that could segment the market by nation (or into groups of UK nations). Additionally, the potential for more significant variations may mean that on the supply side firms may choose not to compete in some nations. A particular example is NSS Scotland having differing primary care EPR system functionality requirements to NHS England and as a result EMIS currently supplies a different product (EMIS PCS Scotland rather than EMIS Web) in Scotland. EMIS has now withdrawn from the NSS GP Framework in Scotland (it will continue to supply EMIS PCS Scotland to existing customers until no later than 2026).[174]

6.14 However, several factors point towards a UK wide market. The core capabilities required from primary care EPR systems are common across all four nations of the UK.[175] Evidence collected at phase 2 shows Cegedim will continue to compete across UK nations.[176] TPP (along with current suppliers

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[172] FMN, paragraphs 13.8, and 13.9.
[173] [✂].
[174] FMN, footnote 47.
[175] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Annotated Response to Background and Market Definition Working Paper (19 July 2023)).pdf, paragraph 2.6.
[176] [✂].

EMIS and Cegedim) has been awarded onto a new framework agreement to supply in Wales[177] in addition to continuing to supply England.[178]

6.15 On balance, our conclusion is that it is appropriate to define a UK wide market, but to take into account the segmentation of the market that can arise, and the variations in the position of the various suppliers in the different UK nations, in our assessment of the competitive effects of the Merger.

Market for MO software

Product market

6.16 MO is the concept of ensuring that prescribed medicine is both clinically-effective and cost-effective.[179] The process of MO aims to help improve patient outcomes, help patients take their medicines correctly, avoid patients taking unnecessary medicines, reduce wastage of medicines, and improve medicines' safety.[180] From the perspective of the NHS, the focus of MO is getting the best value for money from medicines.[181] In primary care, MO software operates on the primary care EPR system used by the GP practice.

6.17 MO software typically suggests alternatives to GPs when they are prescribing medication (at the **point of care**). Figure 6.1 below shows the role of MO software in the prescribing process. MO software can also be used proactively to search patient records (outside of consultations) to suggest potential switches. For example, FDB has two products, OptimiseRx (which operates at the point of care) and AnalyseRx, a tool targeting ongoing MO across a patient population.[182] Similarly, while Optum's main MO product, ScriptSwitch, is used by GP practices at the point of care, it also offers Accelerate (a 12-week programme to identify and implement switches,[183] used by ICBs) and has a further product in the pipeline, Population 360, which will proactively identify MO opportunities across a patient population.[184]

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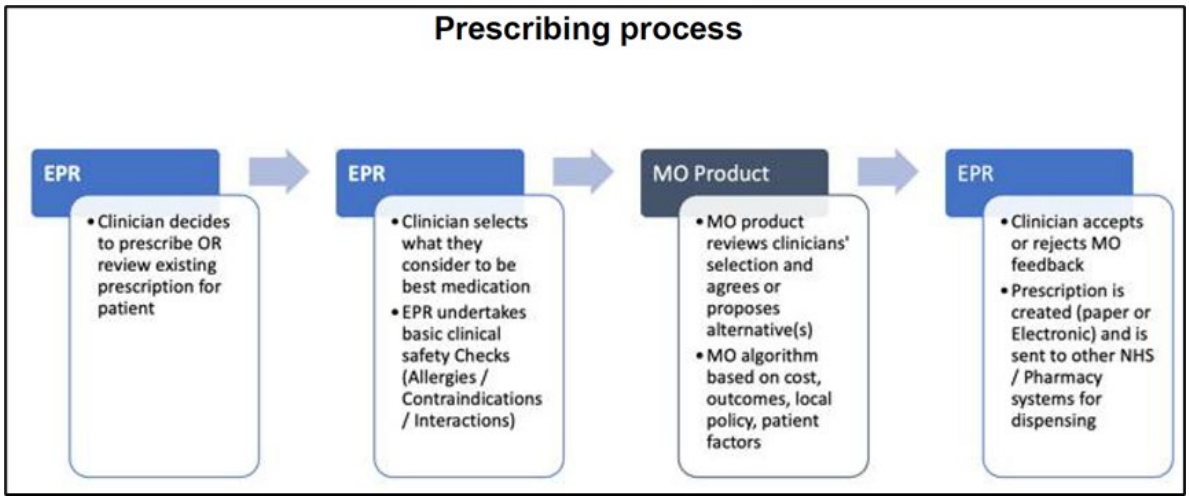
[177] Wales awards new GP IT System Contracts - Digital Health and Care Wales (nhs.wales).
[178] [✂].
[179] NHS England » Medicines optimisation.
[180] NHS England » Medicines optimisation.
[181] The Royal Pharmaceutical Society estimates that in primary care around £300 million per year of medicines are wasted, of which £150 million is avoidable (See Royal Pharmaceutical Society, Medicines Optimisation: Helping patient to make the most of medicines, May 2013, page 4).
[182] FMN, paragraph 14.19.
[183] 1890_Accelerate Product Sheet_04.10.pdf (optum.co.uk).
[184] UH, Optum / EMIS phase 2 51213-2 - UH_EMIS_Response to RFI 5_6 February 2023.pdf - Documents, question 2.

Figure 6.1: Prescribing process



Source: FMN, Figure 1.

6.18 The Parties submitted that there are as many as 20 to 50 providers of MO products and services making up a wider MO market in the UK. The Parties consider five of these to be close competitors and stated the others would have the ability to compete more closely in the future if there were a commercial reason to do so. [185]

6.19 Both Optum's and FDB's MO software have bespoke integration into EMIS's primary care EPR system through customised APIs. Both products broadly deliver the same function, although OptimiseRx is newer, operates on the cloud,[186] and is able to analyse a wider range of patient data to create more trigger points for pop-up messages.[187] No other MO software suppliers have customised APIs with EMIS allowing the key pop-up functionality of Optum's or FDB's products.

6.20 The products of other current and potential suppliers of MO software are either under development or operate differently from Scriptswitch and OptimiseRx. For example, Spirit Health (which currently offers other types of medicines optimisation tools and services)[188] is developing MO software which can integrate with primary care EPR systems.[189] Another supplier, DXS Systems, supplies an MO software known as ExpertCare (hypertension),[190] which is a tool designed to provide prescribing advice in the context of patients with hypertension and multimorbidity.

[185] FMN, paragraph 14.20.
[186] EMIS, Site Visit discussion, 24 May 2023.
[187] EMIS, Site Visit discussion, 24 May 2023 and [✂].
[188] Tools and Services - Spirit Health (spirit-health.co.uk).
[189] [✂].
[190] ExpertCare – a unique electronic medicines optimisation solution (dxs-systems.co.uk).

6.21 Optum's internal MO competitor analysis lists FDB's OptimiseRx and AnalyseRx as the main competing products and provides a comparison of the features of FDB's products and Optum's.[191] [✂].

6.22 This aligns with evidence received from ICBs and Health Boards on the MO products they currently use or would consider procuring.[192] All ten of the ICBs who completed the MO section of our questionnaire[193] told us that they procure either ScriptSwitch or OptimiseRx as their point of care MO product and two responded they procure both.[194] In addition to procuring point of care MO software, some ICBs procured other MO products. These other MO products (such as MedOptimise or PSL's Eclipse Live) were seen as having different functionalities, such as dashboards, risk stratification, and clinical support tools.

6.23 One third party told us that the products in the wider MO space (such as those provided by Ardens, DXS, PSL and Spirit Health) are procured and used in addition to products like OptimiseRx and ScriptSwitch.[195] It said that these products are often treated as complementary, whereas OptimiseRx and ScriptSwitch are substitutable and GPs would only need to use one of the two.[196]

6.24 Another third party told us that MO tools without an EPR system integration are less competitive than those with an integration as customers view them as increasing workloads for both clinical and non-clinical staff.[197] Another third party submitted that a solution is unable to deliver the full MO benefits to end-users if it does not integrate fully with a primary care EPR system.[198]

6.25 Analysis of the MO tenders Optum bid for between January 2019 and February 2023 shows Optum and FDB [✂] submitted bids to supply MO software.[199]

6.26 Assessed in the round, this evidence suggests that the MO products and services offered by suppliers other than Optum and FDB should not be considered part of the relevant market. Their more limited functionality and lack of integration with primary care EPR systems means that they are not substitutable with Optum's and FDB's 'point of care' MO software.

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[191] [✂].
[192] [✂].
[193] [✂].
[194] [✂].
[195] [✂].
[196] [✂].
[197] [✂].
[198] [✂].
[199] UH, response to the CMA's s109 1, Annex 2.

6.27 FDB highlighted that OptimiseRx and AnalyseRx are complementary in nature as they are intended to be used by different user groups. It said that whereas OptimiseRx is designed for point of care use by GPs, AnalyseRx is primarily designed for clinical pharmacists to action medicines changes outside of the point of care.[200] Optum's ScriptSwitch and Population 360 products can also be used simultaneously.[201]

6.28 While these points may suggest that Optum's and FDB's point of care software (ScriptSwitch and OptimiseRx) and their 'proactive' MO software (Population360 and AnalyseRx) are not substitutes from a demand-side perspective, we note that all of these products rely on close integration with primary care EPR systems and each suppliers' pair of products make use of the same base clinical rules. This suggests that they may be substitutable on the supply-side. This is not the case with the wider MO products discussed above, as for these products, significant investment would be required to provide the same broad coverage in terms of the switches of medicines, and/or to integrate with the primary care EPR system. On this basis our view is that AnalyseRx and Population360 are part of the relevant market.

6.29 Our conclusion is therefore that the relevant product market is MO software, which comprises the MO products supplied by Optum and FDB (namely ScriptSwitch, Population360, OptimiseRx and AnalyseRx).

Geographic market

6.30 The Parties submitted previous cases involving healthcare software have suggested that the market is at least national as it is important for market players to have a local (ie within UK) presence, as well as an understanding of the nature of the UK healthcare market.[202]

6.31 Optum and FDB both offer their products across most of the devolved nations. In both England and Wales, MO is procured at the ICB or Health Board level and both ScriptSwitch and OptimiseRx are used across these nations.[203] Scotland has one supplier (Optum) covering the majority of Scottish GP practices as MO is procured nationally by NSS on behalf of Heath Boards.[204] FDB does not currently operate in Scotland as it has not been able to integrate with the primary care EPR systems currently used, but intends to supply [✂] there in the future.[205] Optum does not supply MO products to

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[200] [✂].
[201] The Parties annotated response to the Background and Market definition working paper, paragraph 2.40.
[202] FMN, paragraphs 13.8, and 13.9.
[203] [✂].
[204] [✂].
[205] [✂].

Northern Ireland [✂],[206] [✂].[207] FDB has supplied MO in Northern Ireland since 2022.[208]

6.32 On the supply side, the main characteristics of the product are common across the UK nations, the clinical rules need to be evidence-based and much of this is taken from clinical guidelines developed at a national level, for example by the National Institute for Health and Care Excellence (NICE) in England, the Scottish Medicines Compendium (SMC) and the All Wales Medicines Strategy Group (AWMSG).[209]

6.33 Analysis of the Parties' internal documents indicates that Optum discusses [✂]. For example, [✂].[210]

6.34 On balance, our conclusion is that it is appropriate to define a UK wide market since the firms offer their products across most devolved nations and the main customer requirements (eg in terms of functionality) are common. However, the differing procurement processes and variations in clinical guidelines have the potential to create some differences between the UK nations. As such, we take into account the segmentation of the market that can arise, and the variations in the position of the various suppliers in the different UK nations, in our assessment of the competitive effects of the Merger.

Market for PHM services

Product market

6.35 The NHS describes PHM as 'a way of working to help frontline teams understand current health and care needs and predict what local people will need in the future'. PHM 'uses historical and current data to understand what factors are driving poor outcomes in different population groups' to enable local health and care services to 'design new proactive models of care'.[211]

6.36 Our analysis found that there are a wide variety of different PHM products and services available, which cover a range of different uses and are not all substitutable.[212] The Parties submitted that many ICSs are procuring PHM

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[206] [✂].
[207] This would require obtaining an EU CE Marking see Optum's response to s109 [✂].
[208] [✂].
[209] UH, Internal document 'Clinical Switch rules', June 2021, [✂].
[210] [✂].
[211] NHS England » Population Health and the Population Health Management Programme.
[212] See supplier list for PHM: NHS England » Accredited supplier lists. Responses from our competitor questionnaires show a wide range of products covering Advisory and consultancy, PHM products and Data platforms. Some of these products are very specific and designed for individual customers or unique use cases.

services and advice for the first time and often from multiple providers at once.[213]

6.37 Optum provides both PHM advisory services including analytics and transformational consultancy and PHM products.[214] Although Optum currently offers mostly advisory services, [✂] that it plans to offer more [✂] in future.[215] It does not supply its own PHM data platform but instead has a relationship with [✂] PHM platform.[216] Optum includes within its PHM business certain data analytics solutions, [✂].[217]

6.38 The Parties submitted that the relevant frame of reference is the market for the provision of PHM services.[218] In response to the Issues Statement, the Parties state that they consider 'there to be three general categories within PHM: (i) advisory services; (ii) analytics tools; and (iii) secure data processing platforms (which can be used to link multiple data from multiple sources)'. The parties state that Optum UK only offers (i) and (ii) in the UK and that therefore only these categories are relevant to the CMA investigation.[219]

6.39 ICBs and Health Boards listed a wide array of products they procure, all of which they regarded as falling under the umbrella of PHM, such as data analytics software used for data extraction; [220] clinically assured templates and reports; [221] a PHM management intelligence suite; [222] a cloud software data platform; [223] and support and consultancy services. [224] One ICB told us that its PHM work involves using business intelligence tools to analyse patient data.[225] This suggests that the precise boundary of what is considered a PHM product, or a PHM process, is hard to determine.

6.40 Despite differences in the PHM products offered, of the nine competing suppliers of PHM services that responded to our questionnaire, all indicated that access to EMIS primary care data is important. Five respondents said that there was no alternative to direct access to EMIS data for at least some applications.[226] Three suppliers stated that they require total geographic coverage within a given area and so data from all primary care EPR system

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[213] FMN, paragraph 23.24.
[214] FMN, paragraph 12.10.
[215] Optum, [✂], and Optum, [✂].
[216] FMN, paragraph 14.10; [✂].
[217] FMN, footnote 53.
[218] FMN, paragraph 13.6.
[219] The Parties, Response to the Issues Statement, paragraph 5.7.
[220] [✂].
[221] [✂].
[222] [✂].
[223] [✂].
[224] [✂].
[225] [✂].
[226] [✂].

suppliers is vital.[227, 228] Looking forward, none of the nine respondents expected the importance of access to primary care data held on EMIS's EPR system to fall within the next five years.[229]

6.41 PHM supplier responses suggest the range of PHM products offered and the capabilities they provide may grow over the next few years. Out of the nine PHM competitors that responded to our questionnaire, three reported that they were expecting to launch new PHM services in the next five years.[230]

6.42 In summary, the evidence considered suggests the market for PHM services is broad. Product offerings are evolving and customer understanding of the services remains nascent. Customers tend to require a range of solutions, including data platforms, advisory services and other types of PHM software, and suppliers tend to offer a range of these different types of PHM products and services. In the absence of clear delineation between types of PHM services, we do not consider a need to segment PHM services. Amongst those different PHM products, evidence suggests they commonly require access to primary care data and all suppliers expect primary care data to remain a key input in the next few years. Given EMIS's activities as a primary care EPR system supplier, this suggests the appropriate focus for our investigation is on PHM products and services that require access to primary care data.

Geographic market

6.43 The Parties submitted that previous cases involving healthcare software have suggested that the market is at least national as it is important for market players to have a local (ie within UK) presence, as well as an understanding of the nature of the UK healthcare market.[231]

6.44 Our analysis based on evidence received from suppliers of PHM products and services indicates that PHM is most advanced in England. Almost all of Optum's revenue from PHM is generated in England.[232] In the past, Optum

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[227] [✂].
[228] Optum's view is that primary care data is only required for some types of PHM and in the cases where it is required, over c.60% coverage of patient data in a given geography is sufficient to begin providing PHM services. Optum has previously provided PHM services with c. [✂]% coverage. (The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Annotated Response to Background and Market Definition Working Paper (19 July 2023)).pdf, dated 3 July 2023, 19 July 2023, paragraph 2.61-2.62).
[229] [✂].
[230] [✂].
[231] FMN, paragraphs 13.8, and 13.9.
[232] FMN, para 12.16.

has delivered one small bespoke consultancy contract in Wales. [233] Optum also plans to explore the potential to supply PHM in [✂].[234]

6.45 Responses from PHM services providers indicate that there are some that exclusively operate within England,[235] with a smaller number of competitors reporting successful tenders in Scotland, Wales, or Northern Ireland.[236] However, these competitor responses suggest that they have aspirations to sell their products and services in the other UK nations.[237]

6.46 Overall, while the extent of demand for PHM services varies between nations, most providers appear to be seeking to compete where demand arises and are doing so with similar products and services as a result of similar customer requirements. On this basis, our conclusion is that on balance it is appropriate to define a UK wide market. However, we take into account the segmentation of the market that can arise, and the variations in the position of the various providers in the different UK nations, in our assessment of the competitive effects of the Merger.

[233] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Annotated Response to Background and Market Definition Working Paper (19 July 2023)).pdf, paragraph 2.66.
[234] [✂].
[235] [✂].
[236] [✂].
[237] [✂].

7. Introduction to competitive assessment

7.1 This chapter sets out an overview of our evidence base and the framework for our competitive assessment.

Evidence base

7.2 In assessing the impact of the Merger, we have gathered and taken into account a wide range of evidence, including:

(a) Submissions from the Parties: we have considered the Parties' submissions, responses to our formal and informal requests for information, and information provided at the site visits and Main Party Hearings.

(b) Internal documents: We received a significant volume of evidence from the Parties. In response to targeted information requests, we received over 10,000 internal business documents from UH and EMIS, including key strategy documents, board presentations and email communications among senior staff. These documents which, for the most part, were created in the ordinary course of business, set out or reflect the Parties' views of the primary care EPR systems, MO software, and PHM services markets, as well as their future commercial strategy.

(c) Share of supply and other quantitative data: in addition to qualitative evidence, we gathered quantitative evidence including data to estimate shares of supply, business and customer data (including tender data), and financial data used to analyse the Merged Entity's potential financial incentive to engage in foreclosure.

(d) Evidence from competitors: we obtained evidence from current and potential competitors active in primary care EPR systems, MO software and PHM services in writing and orally.

(e) Evidence from customers: we gathered evidence from a range of NHS customers across the UK nations, as well as evidence from industry groups, which included users of the Parties' products.

(f) Evidence from NHS England: we obtained evidence both orally and in writing from NHS England in particular, as well as from equivalent bodies in Scotland and Northern Ireland.

7.3 In its response to our Provisional Findings, one PHM competitor questioned whether the CMA had consulted broadly enough and asked the CMA to make

further enquiries before coming to a final decision.[238] During our investigation, we proactively contacted over 30 PHM competitors to obtain evidence, and publicly invited comments from any interested parties throughout the investigation (including, for example, inviting responses to our Issues Statement). We consider this broad outreach following the CMA's standard approach is sufficient in order to ensure a robust evidence base. Following the responses to our Provisional Findings, we gathered further evidence from the Parties and market participants (including the PHM competitor who had not previously given evidence to the CMA) in order to understand and assess the concerns put to us in those responses.

Framework

7.4 Theories of harm describe the possible ways in which an SLC may be expected to result from a merger and provide a framework for assessing the competitive effects of a merger.[239]

7.5 We have considered two theories of harm (see Chapters 9 and 10). Both of these theories of harm focus on non-horizontal effects. Non-horizontal mergers combine firms that do not directly compete, but that operate in related markets, and typical concerns may be input or customer foreclosure, or conglomerate concerns.[240]

7.6 In assessing an input foreclosure theory of harm, the CMA will consider whether three cumulative conditions are satisfied.[241]

(a) Would the merged entity have the ability to use its control of inputs to harm the competitiveness of its rivals?

(b) Would it have the incentive to actually do so, ie would it be profitable?

(c) Would the foreclosure of these rivals substantially lessen competition?

7.7 The CMA may use the same framework in similar situations where the merged entity could use its presence in one market to directly harm the competitiveness of its rivals in another, even if there is not a conventional supplier/customer relationship.[242] These situations give rise to the same three questions.

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[238] Market Participant A, Response to the Provisional Findings, 31 August 2023, page 1.
[239] MAGs, paragraph 2.11.
[240] MAGs, paragraph 7.1.
[241] MAGs, paragraph 7.10.
[242] For example, it could do this by using control of a complementary product to deteriorate its interoperability with competitors (MAGs, paragraph 7.11).

7.8 In this case, we are considering whether the Merged Entity will be able to use EMIS's position in the supply of primary care EPR systems to harm the competitiveness of Optum's rivals in the supply of MO software and in the supply of PHM services.[243]

7.9 When assessing whether the merged entity will have the ability to foreclose its rivals, one of the issues the CMA will typically focus on is market power upstream.[244] In this case, EMIS's market power in the supply of primary care EPR systems is relevant for both our theories of harm. We have analysed EMIS's market power in Chapter 8.

7.10 Another possible concern with non-horizontal mergers is that the merged entity may gain access to commercially sensitive information of its rivals through its role as their supplier or customer. Depending on the industry context, this could include data on specific sales and bids, overall pricing strategies and algorithms, technical product specifications or innovation plans. This could allow the merged entity to compete less aggressively, eg with prices or product specifications only marginally better than its rivals and may also deter rivals from innovating. The CMA may assess this concern as a separate theory of harm, or as part of a broader foreclosure theory of harm.[245]

7.11 In this case, we have considered whether the Merged Entity may gain access to commercially sensitive information of Optum's MO software and PHM services rivals through EMIS as part of our broader foreclosure theories of harm.

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[243] A few customers of the Parties submitted that the Merger may further strengthen EMIS's position in the supply of primary care EPR systems, and/or that the Merged Entity could prioritise integration of ScriptSwitch with EMIS Web and/or limit integration with rival primary care EPR systems. However, as discussed in Chapter 9, third party evidence indicates that GPs and ICBs consider that primary care EPR systems are more important than MO software. Therefore, we consider that it is unlikely that the Merged Entity would have the ability to use its position in the supply of MO software to foreclose EMIS's rivals, and we have therefore not considered a customer foreclosure theory of harm.
[244] MAGs, paragraph 7.14.
[245] MAGs, paragraph 7.3.

8. EMIS's market power in the supply of primary care EPR systems

8.1 This chapter sets out our analysis of whether EMIS has market power in the supply of primary care EPR systems.

8.2 In an input foreclosure theory of harm, if downstream rivals can easily switch away from the upstream party to a range of effective alternative suppliers, then they will be less likely to suffer harm than if the merged entity occupies an important position upstream. The starting point for this assessment will be the structure of the upstream market.[246]

8.3 In this assessment, we have considered:

(a) EMIS's shares of supply in the market for primary care EPR systems;

(b) The costs and risks of switching primary care EPR system;

(c) Rates of switching and contract durations; and

(d) Entry and expansion in the market for primary care EPR systems.

8.4 In response to our Provisional Findings, the Parties submitted that EMIS does not have market power in primary care EPR systems and is unlikely to have market power in the future.[247] In particular, the Parties submitted that: (a) the NHS currently acts as a significant constraint on EMIS (and will continue to act as a constraint in the future); (b) EPR system switching by customers can and does occur in practice; and (c) one new entrant has already entered the primary care EPR system market and a number of prospective entrants are expected to capture material market share from EMIS in the near future.[248] We have taken account of the role of the NHS in relation to switching and entry in the relevant sections of this chapter below. The role of the NHS as a constraint on the Merged Entity from taking actions that could foreclose rivals in MO software and PHM services is taken into account in chapters 9 and 10. Switching and entry and expansion more generally are also considered in the relevant sections of this chapter below.

[246] MAGs, paragraph 7.14(a).
[247] The Parties, Response to the Provisional Findings, 1 September 2023, paragraph 2.
[248] The Parties, Response to the Provisional Findings, 1 September 2023, paragraph 2.2.

EMIS's shares of supply in the market for primary care EPR systems

8.5 In this section, we consider EMIS's shares of supply over time in the market for primary care EPR systems. As set out in the Merger Assessment Guidelines, evidence on the level and stability of market shares may be used as a relevant consideration in the assessment of a firm's market power.[249] Generally, a high and stable market share may be indicative of a degree of market power.

Current and historical shares of supply

8.6 There are currently three major active players in the primary care EPR systems market in the UK: EMIS (with EMIS Web in England, Wales and Northern Ireland and EMIS PCS Scotland in Scotland), TPP (with SystmOne) and Cegedim (with Vision).

(a) EMIS is the largest primary care EPR system supplier in the UK with [✂] GP practices using EMIS Web in England, Wales and Northern Ireland and EMIS PCS Scotland in 2022.[250]

(b) TPP is EMIS's largest rival with approximately [✂] GP practices using its software.[251] Currently, TPP operates only in England and has no customers in other UK nations.

(c) Cegedim is EMIS's second largest rival whose primary care EPR system is used by [✂] GP practices in the UK.[252] Most of Cegedim's customers are located in Scotland, Wales, and Northern Ireland, where Cegedim is currently the largest or second largest supplier.[253] Cegedim has a limited footprint in England with [✂] practices using its primary care EPR system in 2022.[254] Cegedim told the CMA that it was previously a significant player in England, but has lost share over the last 10 years and is now actively looking to grow again.[255]

8.7 We calculate the shares of supply based on EMIS's estimates of patient numbers on each system.[256] We consider shares based on the number of

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[249] MAGs, paragraph 4.12.
[250] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, question 9.
[251] [✂].
[252] As of 2022. Cegedim, RFI 2 - Cegedim - 22.06.23.pdf, question 2.
[253] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, question 12.
[254] EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, question 4.
[255] [✂].
[256] EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, question 4.

patients to be more informative than shares based on the number of GP practices because the NHS currently pays primary care EPR systems suppliers based on the number of patients and because GP practices vary in size.[257] We present the shares of supply in the UK in Table 8.1 and the shares of supply in each UK nation in Table 8.2 below.

8.8 The primary care EPR systems market in the UK is currently highly concentrated with just three major players – EMIS, TPP, and Cegedim – covering almost 100% of the market.

(a) EMIS is the largest primary care EPR system in the UK by a wide margin, with a share of supply at [50-60%]-[50-60%] in each year between 2018 and 2022.[258]

(b) TPP is the second largest supplier in the UK, with a share of supply at [30-40%]-[30-40%] in each year between 2018 and 2022;

(c) Cegedim is the third largest supplier in the UK, with [5-10%]-[10-20%] of the market; and

(d) Other suppliers – Microtest and Merlock – have a [✂] [0-5%] between 2018 and 2022. Microtest exited the market in 2020.

8.9 The shares of supply of EMIS, TPP and Cegedim have been stable in the last five years at the UK (Table 8.1) and UK nations (Table 8.2) levels. Between 2018 and 2022, no new suppliers have entered. Apart from EMIS, TPP, and Cegedim, the only primary care EPR system supplier currently active in the UK is Merlock, which operates only in Northern Ireland, where it was used by GP practices covering approximately [✂] in 2022.

[257] The two types of volume-based shares of supply yield similar shares for each supplier with differences between the two sources not exceeding [0-5%] [✂] for any supplier. We were unable to calculate a consistent set of revenue-based shares of supply for the entire period between 2018 and 2022. This is because some suppliers could not isolate their primary care EPR system revenues for some years (✂) and because NHS's payment structure changed in 2021; (✂). ✂. For the period where we could construct consistent revenue-based shares of supply (2021-2022), EMIS's share in the UK was within [✂] of the shares based on the volume of patients.

[258] This estimate of EMIS's share of supply is consistent with the estimates provided to us by NHS England. [✂].

Table 8.1: Share of supply in the market for primary care EPR systems in the UK (2018-2022)

%

	2018	*2019*	*2020*	*2021*	*2022*
EMIS	[50-60]	[50-60]	[50-60]	[50-60]	[50-60]
TPP	[30-40]	[30-40]	[30-40]	[30-40]	[30-40]
Cegedim	[10-20]	[10-20]	[5-10]	[5-10]	[5-10]
Others	[0-5]	[0-5]	[0-5]	[0-5]	[0-5]
Total	100	100	100	100	100

Source: Parties' submission. UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf
Note: 'Others' consist of Microtest in England and Merlock in Northern Ireland.

8.10 EMIS also has a strong position in each of the UK nations. In 2022 EMIS was the largest primary care EPR system supplier by volume of patients in England, Scotland and Northern Ireland and the second largest supplier in Wales – see Table 8.2 below.

8.11 In each UK nation, there is currently only one major alternative to EMIS available to GP practices: TPP in England and Cegedim in Wales, Scotland and Northern Ireland.

Table 8.2: Share of supply in the market for primary care EPR systems in UK nations (2022)

	England		*Wales*		*Scotland*		*Northern Ireland*	
	Patients (m)	*Share (%)*	*Patients (m)*	*Share (%)*	*Patients (m)*	*Share (%)*	*Patients (m)*	*Share (%)*
EMIS	[✂]	[50-60]	[✂]	[40-50]	[✂]	[50-60]	[✂]	[50-60]
TPP	[✂]	[40-50]	[✂]	[0-5]	[✂]	[0-5]	[✂]	[0-5]
Cegedim	[✂]	[0-5]	[✂]	[50-60]	[✂]	[40-50]	[✂]	[30-40]
Others	[✂]	[0-5]	[✂]	[0-5]	[✂]	[0-5]	[✂]	[5-10]
Total	[✂]	100	[✂]	100	[✂]	100	[✂]	100

Source: Parties' submission. UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf
Note: 'Others' relates to Merlock in Northern Ireland.

Forward-looking assessment

8.12 In addition to assessing the current shares of supply, we have also considered how they could change in the future.

8.13 According to its internal forecasts, EMIS expects nominal revenues from its primary care EPR systems to grow by less than the rate of inflation between 2022 and the end of 2026, with expected increases in the conservative case of [✂] and in the target case of [✂].[259]

8.14 EMIS told us that it plans to withdraw its EMIS PCS Scotland solution from Scotland by 2026[260] and [✂].[261] According to EMIS, whilst it phases out its product from Scotland, it plans to support only its existing customers and it

[259] The Parties, Annotated response to the market power working paper, page 16. These figures adjust EMIS original forecast for EMIS' expected withdrawal from Scotland.
[260] FMN, footnote 47.
[261] [✂]. [✂]. [✂].

[✂].[262] Therefore, EMIS's share of supply in Scotland will likely decrease from [50-60]% [✂] to 0% [✂].

8.15 The Parties have submitted that seven new firms have successfully bid to be listed on the TIF,[263] and that some of them may become EMIS's rivals in the future.[264] We consider whether the entry of these suppliers is likely, timely, and sufficient to affect the degree of EMIS's market power in the market for primary care EPR systems in the '*Entry and expansion*' section below.

8.16 TPP and Cegedim have both told us that they intend to expand their market shares.[265]

The costs and risks of switching primary care EPR system

8.17 As set out in the Merger Assessment Guidelines, in its assessment of the Merged Entity's ability to foreclose downstream rivals, the CMA may consider whether switching costs in the upstream market may limit the constraint from upstream rivals.[266]

8.18 In this section we assess the costs and risks that GP practices face when switching primary care EPR system. We consider:

(a) third party views on barriers to switching; and

(b) the Parties' views on barriers to switching.

8.19 There are several steps for GPs switching to a new primary care EPR system supplier. First, a GP practice selects a new primary care EPR system supplier from those listed on GP IT Futures or TIF. Next, the new supplier migrates patients' data from the old supplier onto its system. After the old system is no longer live and before the new system is launched, there is a short period of 'downtime', when the GP practice cannot update patients' electronic medical records. Before the launch of the new system, the incoming supplier provides training to clinicians.

8.20 NHS England told us that it has identified high switching costs of primary care EPR systems as a problem limiting competition.[267] NHS England

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[262] FMN, footnote 47.
[263] Eva Health Technologies, The Flame Lily Healthcare (CheckUp Health), Telstra, John White PM, Medicus Health, Ouris Health, and Oxford Digital Health (OX.DH). See also FMN, paragraph 21.3.
[264] The Parties, Annotated response to the Issues Letter, 22 February 2023, footnote 3.
[265] [✂].
[266] MAGs, paragraph 7.14(a).
[267] [✂].

acknowledged that the unwillingness to switch to a new supplier has entrenched the position of the incumbents.

Third party views

Time required to switch

8.21 Views on the total time required to switch primary care EPR system varied substantially from a few weeks to six months:

(a) According to TPP, an experienced primary care EPR system supplier with a mature migration process could reduce the data migration time to eight to 12 weeks.[268] Cegedim told us the migration process takes around 12 weeks.[269] Cegedim and TPP told us that the time and effort that GP practices need to incur when migrating to a new system is one of the key barriers to switching.[270]

(b) Nine ICBs/Health Boards responded to our question about the time it takes a GP practice to switch.[271] There was a large variation in the estimates, with estimates for migration ranging from 20 to 75 days.[272]

(c) EMIS NUG told us the entire process of switching can take approximately six months.[273] The process of GPs mastering the new system (after it goes live) may take more than six months, significantly longer than the eight days that suppliers usually spend on training GPs.[274]

(d) According to NHS England the process takes on average three months, but some GP practices have managed to complete it in six weeks. Timely and successful migration depends on the co-operation of the outgoing and incoming primary care EPR system suppliers.

Downtime

8.22 EMIS NUG, NHS England, and Cegedim identified downtime – the time after the old system is switched off and before the new one is live – as a key barrier to switching.[275, 276] According to NHS England, during a period of seven to 10

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[268] [✂].
[269] [✂].
[270] [✂].
[271] RFI responses from ICBs and Health Boards, question 6. Customer Questionnaires – Summary Sheet.xlsx. [✂].
[272] [✂].
[273] [✂].
[274] [✂].
[275] [✂].
[276] [✂].

days, all data is recorded on paper and is manually added onto the new system after it goes live. Due to the manual nature of this process, patients' data could get lost or damaged.[277] Cegedim also told us that during this period data is recorded and prescriptions are issued manually, highlighting that this requires additional effort and that additional time and effort is required to log the records back in the system once the new system is operational. [278]

8.23 Different primary care EPR system suppliers told us this downtime can last between two and five days.[279, 280]

System training

8.24 Two third parties told us that the resource implication (including removing staff from frontline roles, training and time for system configuration) for a GP practice choosing to move primary care EPR system was the main barrier to expansion.[281]

8.25 Cegedim told us that GP practices may be discouraged from switching due to the time required to become familiar with the new system.[282] Similarly, an ICB told us that GPs need time to become familiar with a new system. During the learning process, GPs are likely to be less efficient and, as a result, processing a patient could be more time-consuming.[283] There is an opportunity cost of resources being diverted to assist in the switching.[284]

8.26 ICBs and Health Boards provided various estimates of the time required for systems training ranging from 1.5 days to 30 days.[285] Furthermore, nine ICBs/Health Boards provided estimates for the time period over which they may need to provide support to GP practices in their area switching to a new primary care EPR system supplier.[286] Again, there was a large variation in responses, with ICBs/Health Boards indicating migration support to GP practices can last between 20 and 169 days, project manager support can last from five to 22 days, and engineering support can last from five to 13 days.

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[277] [✂].
[278] [✂].
[279] [✂]: Cegedim states this is on average five days although Cegedim's adapter can reduce downtime to 48 hours. ENUG call note refers to a downtime of five days.
[280] The Parties, Response to the market power Working Paper, page 24.
[281] [✂].
[282] [✂].
[283] [✂].
[284] [✂].
[285] [✂].
[286] RFI responses from ICBs and Health Boards, question 7. Customer Questionnaires – Summary Sheet.xlsx. [✂].

Opportunity cost of tender

8.27 One third party told us that the capacity and time required to run tenders and perform due diligence can be significant, so GP practices opt to extend current contracts rather than enter new ones. It also told us that there was often limited resource and subject matter expertise, making transition and digital transformation daunting and prohibitive.[287]

Financial cost

8.28 TPP told us that the entire cost to a GP practice to switch primary care EPR system supplier is typically between £30,000 and £50,000 and that much of this cost is due to lost productivity. The financial costs of migrating may include the installation fee, migration cost, staff training, and opportunity cost of resources being diverted to support the system migration. However, TPP also told us that some incoming suppliers choose to drop some migration charges. [288]

8.29 NHS England told us that switching involves approximately the equivalent of at least £30,000 lost in productivity per GP practice. This is due to the fact that primary care EPR system migration and user training may affect the availability of GPs to see patients and may decrease GP practices' remuneration if, as a result of migration, its performance metrics are not reached.

8.30 Twelve ICB/Health Board bodies responded – partially or fully – to our questions about the time required and financial cost for GP practices and ICBs/Health Boards as a result of GP practices switching primary care EPR systems.[289] Nine estimated the financial costs of GP practices switching that are borne by ICBs/Health Boards.[290] These estimates ranged from £4,349 to £38,000, with the average of £14,692. Only four estimated the financial costs incurred by GP practices due to their migrating to a new system.[291] The estimates of the cost varied significantly from £7,350 to £77,000.

[287] [✂].
[288] [✂].
[289] RFI responses from ICBs and Health Boards, questions 6 and 7. Customer Questionnaires – Summary Sheet.xlsx. [✂].
[290] RFI responses from ICBs and Health Boards, question 7. Customer Questionnaires – Summary Sheet.xlsx. NB this excludes the response from NHS Scotland who, as we understand, provided estimates for the cost of switching EPR system across all GP practices in Scotland.
[291] RFI responses from ICBs and Health Boards, question 6. Customer Questionnaires – Summary Sheet.xlsx.

Risk of data loss

8.31 Evidence from third parties on data migration was mixed:

(a) One third party told us that healthcare providers were under a 'misconception' that data migration and loss are too risky.[292]

(b) EMIS NUG flagged switching carried the risk of patient data loss due to unsuccessful data migration, technical errors, and misplaced notes during the downtime – and that coding errors were commonplace. EMIS NUG told us that in such circumstances switching could put patients' safety at risk.[293] This view was also expressed in a call with an ICB that told us that data migration can result in errors and lost patient data.[294]

8.32 NHS England told us it is taking steps to simplify switching primary care EPR system supplier. It is currently trialling a new migration system called GP-to-GP which aims to standardise data migration. Following the trial, NHS England plans to roll out a dedicated mechanism through which an incoming primary care EPR system supplier would be able to migrate patients' data from the outgoing supplier. NHS England considers that with this tool, the risk of losing data and the time required to change suppliers would decrease significantly from the current levels. NHS England told us that it expects this tool to become available once the trial has finished in mid-2024. [295]

Benefits to GP practices in using the same system

8.33 Several third parties told us that there are some benefits to GP practices within the same local area using the same primary care EPR system:

(a) EMIS NUG told us sharing patient data across GP practices can be done more efficiently between the same systems than across two different ones.[296] EMIS NUG considers that such data-sharing between GP practices (and other healthcare entities) is important in the context of the NHS's drive for better shared health records.

(b) One ICB told us it is supportive of GP practices in the same area working on the same system. It told us that it benefits from GP practices using the same system, because it allows them to achieve better prices from suppliers on auxiliary services and to save resources on testing

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[292] [✂].
[293] [✂].
[294] [✂].
[295] [✂].
[296] [✂].

integrations between the primary care EPR system and third party software.[297]

(c) NHS England told us that additional pressure is placed on a new primary care EPR system supplier to understand all of the local integrations a GP practice may have and ensure these feed into the EPR system.[298]

Decision to switch

8.34 An ICB told us that switching takes place only when there is a significant justification to change the supplier.[299] It considers switching could be justified if a new supplier were able to offer a cheaper and a more seamless solution than the one GP practices currently use.[300]

8.35 Cegedim told us that the decision to move system was often strongly influenced at a level above an individual GP practice, for example at the PCN or ICS level. It went on to tell us that the decision to move a large number of practices in a short timescale has significant implication for the PCN or ICS; this creates an inertia which acts as a barrier to expansion.[301] Similarly, a new entrant told us that there was reluctance from a 'largely conservative group of commissioners' to move away from a legacy EPR system embedded across the primary healthcare estate.[302]

Parties' views

8.36 The Parties argue that information provided by EMIS's competitors overstates the difficulty of switching primary care EPR system supplier. The Parties told us:

(a) According to EMIS, the entire process of migration— from the GP practice's decision to switch to the new system going live— takes on average two months and can with additional resource be completed in four weeks.[303]

(b) EMIS considers that the time taken to learn how to use a new system is short, and that GPs need only a day to master the core aspects of the EMIS primary care EPR system.[304] A competitor's marketing material also

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[297] [✂].
[298] [✂].
[299] [✂].
[300] [✂].
[301] [✂].
[302] [✂].
[303] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 28.
[304] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 39.

suggests that it is easy to switch EPR system, and TPP's Research, Analytics and Data Director tweeted 'migration is quick and easy with no data loss and now zero cutover time'.[305]

(c) TPP appears to be informing the market that £10,000 will 'cover migration costs'.[306] EMIS told us that ICBs pay approximately £3,000 to the incoming supplier which covers the work associated with a GP practice system migration.[307] EMIS argued that all costs incurred by the outgoing supplier are borne by that supplier, in line with the call-off agreement under GP IT Future and TIF.[308] In addition, NHS England can assist GP practices in migration, thereby lowering the financial cost of switching.[309]

(d) Clinical safety processes and standards ensure that patients' safety is not put at risk during switching. The Parties also told us that TPP marketing material tells customers they can be confident that data will be migrated safely and securely.[310]

(e) There are no interoperability benefits to GP practices in the same area using the same EPR system. GP Connect and IM1 allow clinical staff to share clinical information and data between systems quickly and efficiently and enable third party systems to interoperate with all primary care EPR systems.[311] Moreover, given interoperability between EPR systems, there is no reason not to move many practices at once.[312]

(f) The introduction of the TIF will further reduce the cost of switching.[313] We consider the effect of TIF on the likely entry and expansion in below in 'Entry and expansion'.

8.37 The Parties also submitted that they have presented a large body of evidence demonstrating that EPR system switching by customers can and does occur in practice.[314] In particular, the Parties provided an example of 'successful mass switching' of 196 EMIS and Vision GP practices which migrated to TPP between October 2013 and March 2014.[315]

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[305] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 27.
[306] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 28.
[307] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 37.
[308] FMN, paragraph 23.31.
[309] FMN, paragraph 23.32.
[310] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 30.
[311] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, pages 32 and 36.
[312] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 51.
[313] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 36.
[314] The Parties, Response to the Provisional Findings, 1 September 2023, paragraph 2.2.
[315] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 45-46.

Our conclusion

8.38 Switching primary care EPR system supplier is a complex process which GPs conduct infrequently (see next section) and are generally unfamiliar with. There is some divergence of views among market participants about the length of time required to complete the process, but third parties consistently told us that the risks involved deterred switching.

8.39 The Parties told us that the cost of downtime and data loss are overstated. However, even two days without the ability to make electronic records could potentially cause significant additional work for a GP practice. EMIS NUG and an ICB told us that the process of manually uploading records made after the downtime raises the risk of information being incorrectly logged.

8.40 The Parties argue that interoperability standards mean that primary care EPR systems talk to each other. This does not however address customer concerns around potential problems arising from changing links between the primary care EPR system and other local IT systems and increased complexity in their IT estates.

8.41 We understand that apart from the costs incurred by the outgoing supplier – which are covered by it – there are other costs incurred by GP practices and ICBs/Health Boards. These include staff training, project management support, and the opportunity cost of staff dedicating their time to system migration, with third party estimates of these costs varying. There are currently no obligations set by the GP IT Futures, the TIF, or the DCS Catalogue Agreement that would mandate the outgoing or incoming supplier to pay for these costs. Whilst primary care EPR systems suppliers may choose to cover some of these costs, they do so at their discretion.

8.42 We consider that together these factors result in significant switching costs for GP practices to change their primary care EPR system supplier.

Analysis of switching rates and contract durations

8.43 Next, we consider observed switching behaviour between primary care EPR systems. We consider:

(a) The switching rate of EMIS's customers; and

(b) The length of time for which GPs use EMIS's primary care EPR system.

Switching rate of EMIS's customers

8.44 For the purpose of the switching rate analysis, we have used EMIS's primary care EPR system customer switching data,[316] which included:

(a) the number of patients covered by GP practices using EMIS's primary care EPR system at the beginning of each year between 2017 and 2022; and

(b) the number of patients covered by GP practices who switched to and from EMIS's primary care EPR system over the course of each year between 2017 and 2022.

8.45 Based on EMIS's figures, we have calculated the number of patients whose GP practice switched to and from EMIS. For this analysis, we have used the number of patients instead of GP practices because:

(a) Primary care EPR system suppliers receive a fixed payment from the NHS for each patient covered by their software. As such a gain/loss of one patient always amounts to the same financial gain/loss. In contrast, GP practices vary in size and a financial gain/loss associated with winning/losing a GP practice customer may vary across practices.

(b) GP practices may open, close, merge, and split, resulting in EMIS winning and losing GP practice customers for reasons other than switching. Switching figures based on the volume of patients abstracts away from GP practice mergers and closures and are more consistent with stable shares of supply of EMIS set out in Table 8.1.[317]

8.46 The share of patients whose GP practices switched to EMIS was calculated by dividing the number of patients whose GP practices switched to EMIS over the course of the year by the number of patients covered by EMIS's customers (GP practices) at the beginning of the year. Similarly, the share of patients whose GPs switched away from EMIS was calculated by dividing the number of patients whose GPs switched away from EMIS over the course of the year by the number of patients covered by EMIS's customers (GP practices) at the beginning of the year.

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[316] EMIS's data on patient flows (to and from EMIS) excludes patients who were born, died, or changed their address. Consequently, the flow of customers in and out of EMIS's product relates only to GPs switching their primary care EPR system.

[317] The switching rate to EMIS calculated based on the number of GP practices who moved to and from EMIS is consistent with the equivalent calculated using the volume of patients. However, the switching rate away from EMIS is [✂] times higher when calculated based on the volume of GP practices than patients. We understand that this reflects the overall decline in the total number of GP practices in the UK due to GP practice mergers and closures (demonstrated in EMIS's data on the total number of GP practices in the UK between 2018-2022).

8.47 The data provided by EMIS on switching (shown in Table 8.3 below) appears to be consistent with EMIS's stable market share and high switching costs set out in Table 8.1 and section '*The costs of switching a primary care EPR system*' above. The rate of primary care EPR customer switching to and from EMIS has been consistently low between 2017 and 2022, at [✂]. Most recently, in 2022, the gross inflow of patients to EMIS was [✂]% of its patient base, whereas the gross outflow of patients from EMIS was [✂]%.

Table 8.3: EMIS's switching rates in primary care EPR systems, 2017-2022

	2017	*2018*	*2019*	*2020*	*2021*	*2022*
Patients of EMIS's customers (GP practices) at the beginning of the year	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Patients of GP practices who switched to EMIS	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Patients of GP practices who switched from EMIS	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Share of patients who switched to EMIS (as a % of patients of EMIS's customers)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]
Share of patients who switched from EMIS (as a % of patients of EMIS's customers)	[✂]	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Parties' submission, CMA's calculations. UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf
Note: Changes in the number of customers at the beginning of each year are not fully accounted for by the net movement in customers won and lost. This is due to patients being won or lost as a result of reasons other than practices migrating systems (births, deaths, patients changing address) which is not captured in the number of customers won or lost.

8.48 The Parties claimed that primary care EPR system switching can be expected to increase in the future regardless of the historical switching rates.[318] The Parties argued that:

(a) The low level of switching among EMIS's primary care EPR system customers can be related to EMIS being a co-operative and open EPR system provider.[319] The Parties consider that, in the event of any issues with its primary care EPR system in the future, customers would switch.

(b) Any switching costs incurred by the outgoing supplier are borne by them, in line with the GP IT Futures and the TIF. The incoming supplier can charge a one-off migration fee which is covered by the NHS.[320]

[318] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 31.
[319] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 31.
[320] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 31.

(c) The NHS is actively seeking to increase the number of primary care EPR system suppliers.[321]

(d) The switching rates in recent years could be artificially low due to resources in the NHS being prioritised on managing the COVID-19 pandemic.[322]

8.49 The Parties also told us that the lack of new customers in the market suggests new entrants are planning to take market share from incumbent providers, and that consequently switching rates will increase.[323]

8.50 We have considered the Parties' arguments listed above (in the same order).

(a) Whilst the low level of switching of EMIS's customers may be related to EMIS being co-operative and open, the Parties have not submitted any evidence that switching would be higher in the event of the Merged Entity foreclosing MO and/or PHM rivals. Additionally, according to customers and competitors, a primary care EPR system is crucial software, the performance of which can have material consequences for the work of GPs and patient safety.[324] Customers have told us that changing the primary care EPR system is disruptive, complex, expensive, time-consuming and potentially risky (in terms of potential to lose data and risk patient care).[325] We, therefore, do not consider that EMIS's rate of switching – in the event of the Merged Entity foreclosing MO and/or PHM rivals – is likely to be materially different to the rates observed between 2017 and 2022.

(b) In relation to the argument that costs are borne by the outgoing suppliers, we have concluded in the section 'The costs and risks of switching primary care EPR system' that GP practices and ICBs/Health Boards face significant switching costs.

(c) We consider the NHS's attempts to increase the number of primary care EPR system suppliers in the section '*Entry and expansion'* below.

(d) We agree with the Parties that switching rates in 2020-2021 (during the height of the COVID-19 pandemic) appear lower than in the earlier years. However, in the years before the COVID-19 pandemic – between 2017

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[321] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 31.
[322] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 32.
[323] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 56.
[324] [✂].
[325] [✂].

and 2019 – switching rates were still at low levels, between [✂]%. Even if switching rates returned to pre-COVID-19 pandemic levels, we consider this a low level of switching.

The length of time for which GPs use EMIS's primary care EPR system

8.51 In addition to reviewing EMIS's switching data, we have also analysed the typical length of time GP practices have been using EMIS's primary care EPR system. If most customers have been procuring from EMIS for a long time, this could be indicative of limited switching and high costs of migration. Conversely, if EMIS has a limited share of long-standing customers, this could indicate a higher degree of switching and lower costs of migration.

8.52 This analysis is based on EMIS's contract data, which sets out the current contract length and the year of the initial contract with EMIS for each GP practice using EMIS's primary care EPR system in December 2022.

8.53 Using this data, we calculated the average time that EMIS's current customers have been using EMIS's primary care EPR system. The distribution of the duration that EMIS's customers have been using its services is shown in Figure 8.1 below.

8.54 We have found that, although [✂]% of EMIS's customers are currently on a contract with a duration up to [✂] months, the majority of EMIS's customers tend to be sticky and have been using EMIS for [✂] or more years. The mean time that EMIS's primary care EPR system customers have been procuring from EMIS is [✂] years.

8.55 Moreover, [✂]% of EMIS's customers have been using its primary care EPR system for more than [✂] years. Consistent with EMIS's switching data, EMIS's contract data indicates that only a small proportion of EMIS's customers – [✂] – were acquired in the last three years.

Figure 8.1: [✂]

[✂]

Source: [✂].

Our conclusion

8.56 The evidence received shows consistently low switching rates of primary care EPR system customers to and from EMIS between 2017 and 2022 of [✂]. The evidence also shows that the majority of EMIS' GP practice customers have been using EMIS Web for [✂].

8.57 This is consistent with the evidence received that GP practices face challenges and high costs when switching primary care EPR system supplier.

Entry and expansion

8.58 In this section, we consider the extent to which barriers to entry and expansion in primary care EPR systems contribute to EMIS's market power. If barriers to entry were to be found low, and new suppliers could be expected to enter or expand in a sufficient and timely manner, this could limit the extent of EMIS's market power.

8.59 The Parties argued that by introducing a new framework (the TIF), the NHS is seeking to lower barriers to entry and increase the number of suppliers in the market for primary care EPR systems.[326] They told us the NHS has the 'ability to constrain the Parties given the extensive regulatory framework in place and the open tender processes' and that its 'sponsorship' of new entrants is evidence of its role as a sophisticated customer.[327, 328]

8.60 According to EMIS's primary care EPR system rivals and other third parties, new suppliers face barriers to entry in two key areas: (i) in achieving necessary scale; and (ii) overcoming regulatory challenges. We have considered these barriers, including in light of the introduction of the TIF, and in this section we consider evidence on:

(a) Historic and planned entry into the primary care EPR system market;

(b) The importance of scale as a barrier to entry and expansion; and

(c) Regulatory barriers to entry and expansion.

Historic and planned entry

8.61 As set out in paragraph 8.11 above, in each UK nation, there are currently only two main primary care EPR system suppliers. Only three primary care EPR system suppliers – EMIS, TPP, and Cegedim – currently operate at scale in the UK and, in the last four years, there have been no new entrants to the market.[329] Indeed, [✂].[330]

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[326] FMN, paragraph 21.3, and The Parties Annotated Response to the Issues Letter, p116.
[327] FMN, paragraph 23.3 and, The Parties Response to Issues Statement, 31 May 2023, paragraph 3.21.
[328] The Parties, response to the Provisional Findings, 1 September 2023, paragraph 2.2.
[329] EMIS, UH - EMIS - Third Submission to the First EMIS Section 109 Request.pdf, dated 27 April 2023, 16 June 2023, question 19.
[330] [✂].

8.62 The Parties told us that the TIF is already lowering the barriers to entry, that the NHS has named seven new suppliers under the TIF, and that one of these has already successfully entered the market.[331, 332] [✂].[333]

8.63 As noted in Chapter 4, 'Industry background', there are seven suppliers in addition to EMIS listed on the TIF. We note that, [✂]. NHS England told us it expects services will start being supplied under the framework over the next year (discussed further below at paragraph 8.75).

The importance of scale and difficulties achieving it

8.64 This section summarises the evidence on the scale of entry required by primary care EPR system suppliers and how difficult this is to achieve.

8.65 First, we note that the overall growth of the market is slow. The volume of primary care EPR system customers only increased [5-10]%. The price of primary care EPR products is currently capped at £1.26 per patient per annum (see paragraph 4.21).[334] We therefore consider the primary care EPR systems market is static, and that new suppliers must compete for existing customers due to a lack of new customers in the market. We consider this would exacerbate the difficulties for new suppliers in achieving scale.

8.66 Third parties told us that a 5-10% market share is required for new entrants to recoup their costs:

(a) [✂] told us that a new entrant would need to capture between 5-10% of the market in two years to cover the overheads of development.[335]

(b) This is broadly consistent with what another third party told us.[336]

(c) Another third party told us that it believed 5% market share was required as a minimum to achieve a viable investable proposition.[337]

8.67 Regarding their plans for scale in the primary care EPR system market, third parties told us:

(a) One third party plans to win a modest percentage of the market share of existing suppliers in the next two-to-four years. It told us that it is planning

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[331] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, paragraph 3.22.
[332] The Parties, Parties' response to the Provisional Findings, 1 September 2023, paragraph 2.2.
[333] The Parties, Response to Issues Statement, dated 17 May, 31 May 2023, paragraph 3.23.
[334] This is the price-per-patient in England, but we understand from EMIS's customer data that the price-per-patient would be similar in other nations.
[335] [✂].
[336] [✂].
[337] [✂].

to disrupt the market conservatively but hopes more new entrants will follow. It plans to start supplying an EPR system in England in 2023 and then to expand into other UK nations.[338]

(b) Another third party told us that it has forecast that it will obtain a [0-5]% market share in 2023, [5-10]% in 2024, and between [5-10%] and [10-20]% in the period 2025-28. It told us that its forecasts are anchored on achieving a [5-10]% market share by April 2025 and that it could support delays of up to a year before the investment return would no longer be acceptable to shareholders.[339]

(c) Another third party told us that it had based projections on securing [5-10]% of GP practices by the end of 2028. This estimate of share was based on the current 'market domination' of EMIS and TPP, estimated by the third party at [90-100]%, the difficulty of replacing an incumbent and competition from likely new market entrants.[340]

(d) Another third party told us that its intention is to expand its market share across the UK over the next two years but that it did not think this would have an immediate impact on the market even within a two-year timescale because the actual migration of GP practices to a new solution takes time. Competitors' market shares will change over a couple of years. However, it told us that if one new entrant was successful this competition should encourage innovation. It also told us that it planned to expand through procurement cycles in all the UK nations.[341]

8.68 NHS England told us [✂].[342] [✂].[343]

8.69 Evidence from third parties suggests that gaining the necessary scale may be difficult for new entrants to achieve:

(a) As set out in 'The costs and risks that GPs face when switching the primary care EPR system' section above switching costs are high.

(b) NHS England told us that the level of the payments available to primary care EPR suppliers under the current frameworks limits the attractiveness of the market, and potentially dissuades entry given the high setup costs

[338] [✂].
[339] [✂].
[340] [✂].
[341] [✂].
[342] [✂].
[343] [✂].

involved in developing a primary care EPR system and the entrenched position of the current incumbents.[344]

(c) Third parties told us GP practices would be reluctant to switch to a new entrant's products that do not have a proven track-record of reliability as primary care EPR systems.[345] They also told us that the GP IT Futures framework demonstrated that the NHS is a low-risk buyer and that the NHS chooses suppliers based on repeatable use cases which preferences incumbent players. [346, 347] In addition, a third party told us that privacy and security concerns for patient data can slow down the expansion of EPR systems.[348]

(d) A third party told us that although from a technology point of view it was relatively simple to change the position held by EMIS and TPP, the challenge was to change the entrenched position of both suppliers in the GP practices.[349]

8.70 The Parties told us instead that any concerns with respect to apparent barriers to entry in the primary care EPR systems market are unwarranted. The Parties told us:

(a) Inclusion in the DCS Catalogue represents an endorsement by NHS England and provides GPs with sufficient assurances for them to procure new entrants' services. NHS England 'sponsoring' new entrants indicates that reputation and past experience are not fundamental to being chosen as a new EPR supplier.[350]

(b) Recent successful entry and expansion demonstrates that any barriers had been overcome. One new entrant invested 'only' between £1 million and £5 million to enter the market successfully and at least two other new entrants are demonstrating compliance with the NHS's requirements.[351]

(c) NHS England's TIF requirements to 'build EPR products to a common defined structured specification' have 'level[ed] the playing fields'.[352]

8.71 The Parties estimated that the total cost to a new entrant to develop an EPR system compliant with the TIF (assuming the entrant had no existing

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[344] [✂].
[345] [✂].
[346] [✂].
[347] [✂].
[348] [✂].
[349] [✂].
[350] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 54..
[351] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 47.
[352] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 47.

capabilities) would be approximately £[✂] million, largely relating to the employment of staff [✂]. New entrants told us they had to invest around £3 million in development of their EPR solution.[353, 354] Regarding being included on the DCS Catalogue, one third party told us that it expected to be included in Q3 2023 and had spent approximately £[✂].[355, 356]

8.72 The Parties told us that costs to enter the market could not be considered prohibitive, given at least three entrants had incurred such costs. The Parties told us:

(a) A market entrant would only need to achieve a market share of between [0-5]% and [0-5]% (on average) over a ten-year time horizon to recoup investments of between £1 million and £5 million.[357]

(b) New entrants must be planning to capture a sufficient market share to recoup their investment. This suggests that cumulatively new entrants anticipate acquiring a 'much greater' market share than 0-5% in the next two years.[358]

Regulatory challenges

8.73 We understand from NHS England that it had identified regulatory barriers as an important constraint. Its new framework (the TIF) is designed to reduce these barriers.[359]

8.74 The TIF is the third framework to launch under the DCS Catalogue and will run in parallel with existing frameworks like GP ITF. Similar to the GP ITF framework, all suppliers on the TIF must meet the NHS's overarching, interoperability, and capability-specific standards. In addition, suppliers on the TIF must also meet Technology Innovation Standard, which requires software, among other things, to store data on the cloud and be available via internet browsers. Suppliers on the TIF must also provide a solution which delivers at least the core functions of an electronic health record.[360, 361]

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[353] [✂].
[354] [✂].
[355] [✂].
[356] EMIS, 20230627 - EMIS Response to RFI 5.pdf, dated 22 June 2023, 27 June 2023, question 3.
[357] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 64.
[358] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 64.
[359] NHS England, call note [✂].
[360] The six core features are: (i) Patient information maintenance, (ii) appointments management, (iii) recording consultations, (iv) prescribing, (v) referral management, (vi) Resource management. Source: https://digital.nhs.uk/services/digital-care-services-catalogue/tech-innovation-framework
[361] Source: https://digital.nhs.uk/services/digital-care-services-catalogue/tech-innovation-framework

Third parties

8.75 Evidence from NHS England suggests it has had some success at supporting the introduction of new entrants into the primary care EPR system market via the TIF. NHS England told us:

(a) [✂].[362]

(b) [✂].[363] [✂].[364]

(c) [✂].[365]

(d) [✂] current expectation is there [✂] replacement framework commencing, [✂].[366]

8.76 Market participants agreed that the TIF introduces a simplified technical specification as compared to the GP ITF framework.[367, 368] Third parties expressed mixed views on the support the TIF provides to new suppliers:

(a) One third party told us that the TIF had given it access to around 100 primary care thought leaders including practitioners and ICBs.[369] However, another third party told us that the TIF only gives access to a small pool of 50 practices that have identified themselves as keen 'early adopters' of digital solutions.[370]

(b) Another third party told us that since the TIF is not currently open and providers can no longer use the GP ITF framework, they are pushed to extend current contracts and not 'seek new and better solutions'.[371]

(c) One third party told us that the TIF operational plan includes fragmented guidance and support from NHS to enable API interoperability and integration. Technical support for integrations and interoperability was slow to materialise and has now been removed, making it more difficult for new market entrants to compete.[372]

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[362] [✂].
[363] [✂].
[364] [✂].
[365] [✂].
[366] [✂].
[367] [✂].
[368] [✂].
[369] [✂].
[370] [✂].
[371] [✂].
[372] [✂].

(d) One third party told us that the TIF has been designed to encourage new market entrants, however suppliers will still face the same barriers as before it was introduced.[373]

8.77 Despite the TIF, third parties told us that the breadth and UK-specificity of UK regulatory requirements acts as a barrier to entry and expansion. Barriers raised included:

(a) Different types of certification: examples third parties told us about included the requirement for a full DCB0129 clinical safety programme,[374] a requirement for EPRs to communicate with and support other infrastructure outside the NHS, for example the Home Office.[375] [376] [377]

(b) Requirements expected of new primary care EPR suppliers tend to be UK-specific and suppliers attempting to import an existing product from another country cannot easily adapt their solution to the UK.[378] [379]

(c) The NHS's procurement 'legacy' framework: this represents a structural difficulty as it would be difficult for new, innovative players to be compliant with this 'old' framework.[380, 381]

(d) The fragmented procurement landscape: a third party told us it can be difficult as a new entrant to navigate and influence decision makers across thousands of independent GP practices, which often procure their own IT infrastructure. It was however optimistic that the introduction of ICBs would bring more central buyer power.[382]

The Parties' views

8.78 In their response to our working papers, the Parties disagreed that the breadth of regulatory requirement present barriers to entry. For example, they

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[373] [✂].
[374] DCB0129: Clinical Risk Management is an information standard which provides a set of requirements suitably structured to promote and ensure the effective application of clinical risk management by those organisations that are responsible for the development and maintenance of Health IT Systems for use within the health and care environment. Source: https://digital.nhs.uk/data-and-information/information-standards/information-standards-and-data-collections-including-extractions/publications-and-notifications/standards-and-collections/dcb0129-clinical-risk-management-its-application-in-the-manufacture-of-health-it-systems.
[375] [✂].
[376] Such as ISO27001, an internationally recognised specification for an Information Security Management System (**ISMS**), and Cyber Essential Plus, a government backed scheme that helps protect organisations against cyber attacks. It also told us that conversations were ongoing within the NHS regarding certification against NHS Digital Technology Assessment Criteria (**DTAC**) and Web Content Accessibility Guidelines (**WCAG**).
[377] [✂].
[378] [✂].
[379] [✂].
[380] [✂].
[381] [✂].
[382] [✂].

told us that certification was not overly onerous, that a number of consultancies could provide assistance, and that TIF was introduced to lower entry barriers and encourage entry of new innovative players.[383]

8.79 The Parties told us that the NHS was supporting new entrants, with a view to securing a greater range of choice (consistent with evidence described above). Under the TIF Early Adapter Support programme, ICBs, GP practices and PCNs are encouraged by NHS England to switch to a new primary care EPR system. NHS England also hosted the TIF Expo 2023 in February 2023, which provided an opportunity for staff at GP practices to meet with prospective suppliers.[384]

8.80 The Parties told us that it has been possible for ICBs to call-off suppliers admitted to the TIF since November 2022, and that they did not agree the relevant NHS frameworks are only open at certain times for onboarding.[385]

Our conclusion

8.81 We consider that the barriers to entry and expansion are high due to:

(a) The importance of scale and difficulty achieving it, due to factors such as: high switching costs and low switching rates; the static nature of the market; the importance of reputation and high fixed costs to enter the market.

(b) Regulatory challenges, including the wide range of requirements imposed on suppliers such as integration with NHS's software, the specificity of the UK market and the NHS's procurement network.

8.82 This assessment is also consistent with the current structure of the market where there are only three significant players in the UK, of which EMIS is by far the largest.

8.83 Third parties agree that the TIF simplifies the technical requirements that new entrants need to meet, and that NHS England is providing some support to new entrants. However, it is unclear what impact this will ultimately have on the significant challenges identified to entry and expansion. [✂].[386]

8.84 Several new suppliers plan to enter and expect to capture modest market shares. NHS England told us that it expects new entrants [✂]. Given NHS

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[383] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, pages 56-59.
[384] The Parties, Response to Issues Statement, 31 May 2023, paragraph 3.24.
[385] The Parties, UH_EMIS_Annotated Response to Market Power Working Paper (19 July 2023).pdf, page 63.
[386] [✂].

England's expectations and the high barriers to entry we consider it highly unlikely that all prospective new entrants will enter and capture the market shares they have forecast. We therefore conclude that the introduction of the TIF is unlikely to significantly change the barriers to entry and expansion for primary care EPR systems in the short to medium term.

Our conclusion

8.85 Based on the evidence set out in this chapter, we conclude that EMIS currently has market power in the market for the supply of primary care EPR systems in the UK. We also conclude that EMIS's market power is unlikely to decrease in the foreseeable future.

(a) Between 2018 and 2022, EMIS consistently held more than half of the primary care EPR systems market in the UK. In that time, the market shares of all players have been stable and no new players have entered the market.

(b) EMIS also held a share of between [40-50]% and [50-60]% of the market in each UK nation in 2022 with only one major rival present in each nation.

(c) As a result of the risks, time and financial costs required to change the system, GP practices are generally unwilling to switch primary care EPR system. Although some suppliers have developed ways to shorten the time and lower the financial costs associated with the process, switching in the market has been infrequent in recent years, as evidenced by EMIS's low switching rates and the long average time that EMIS's customers have been using its system. We acknowledge that NHS England is taking steps to facilitate easier and lower risk switching; however, this solution is currently being trialled and it is uncertain whether it will be rolled out more widely and how effective it might be.

(d) Barriers to entry are high, covering areas such as the difficulties in achieving scale, regulatory challenges and high switching costs. While the introduction of the TIF is likely to encourage entry in the primary care EPR market, it seems unlikely that new entrants will be able to enter with sufficient scale to challenge EMIS's market power.

(e) We acknowledge that at least three new entrants are preparing to enter the primary care EPR systems market in the UK in the next few years. However, the entry and subsequent expansion of these players is still at a very early stage and so highly uncertain. We therefore do not consider the threat of entry sufficient to challenge EMIS's current market power in the

supply of primary care EPR systems in the UK, even though it seems likely that some entry will occur in the next two years.

9. Partial foreclosure in the supply of MO software

9.1 In this chapter, we set out our competitive assessment in relation to the partial foreclosure theory of harm in the market for MO software in the UK. In our assessment, we consider whether the Merged Entity will be able to use EMIS's position in the supply of primary care EPR systems to harm competition in the supply of MO software.

9.2 As discussed in Chapter 7, in assessing this theory of harm, we have considered whether three cumulative conditions are satisfied:

(a) Would the merged entity have the ability to use its control of inputs to harm the competitiveness of its rivals?

(b) Would it have the incentive to actually do so, ie would it be profitable?

(c) Would the foreclosure of these rivals substantially lessen overall competition?

Ability

9.3 In this section we have assessed whether the Merged Entity would have the ability to partially foreclose Optum's only rival in the supply of MO software – FDB. To that end, we consider:

(a) whether EMIS has market power in the supply of primary care EPR systems;

(b) the importance of customised integration between primary care EPR systems and MO software;

(c) whether the NHS could prevent partial foreclosure; and

(d) what mechanisms might be available to the Merged Entity to partially foreclose FDB.

EMIS's market power

9.4 As set out in the Merger Assessment Guidelines and in Chapter 7, the assessment of market power of the upstream firm (in this case, EMIS) is a relevant consideration in non-horizontal theories of harm. We assess EMIS's market power in the market for primary care EPR systems in Chapter 8. Based on this assessment, we consider that EMIS has market power in the primary care EPR systems market.

Importance of custom integration between primary care EPR systems and MO software

9.5 MO is a part of the wider prescription workflow within primary care EPR systems. As such, MO software requires a degree of interoperability with the EPR system.

9.6 Currently, all MO software interoperates with primary care EPR systems via customised integrations.[387] Whilst some of these customised integrations pre-date the IM1 standards,[388] others have been developed after the IM1 standards became available (in December 2020). These include FDB's AnalyseRx, which already has a customised integration with EMIS Web and intends to launch customised integrations with other primary care EPR systems.[389] Similarly, Optum's Population 360 will interoperate with EMIS Web through a customised integration.[390]

9.7 Optum and FDB pay primary care EPR systems suppliers substantial fees for the development and ongoing support of these custom integrations:

(a) FDB paid £[✂] to EMIS for the development of the customised integration between AnalyseRx and EMIS Web.[391] Optum paid EMIS [✂] to develop the customised integration between Population 360 and EMIS Web.[392]

(b) Currently, FDB pays to EMIS [✂] of the revenue it generates from providing its MO software via EMIS's primary care EPR system (see more details in Table 9.1 below).[393] The annual value of FDB's on-going fee to EMIS has increased from [✂] in 2019 to [✂] in 2022.[394]

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[387] See Chapter 6, paragraphs 6.19-6.20.
[388] For example, the customised integrations between EMIS Web and OptimiseRx and between EMIS Web and ScriptSwitch.
[389] Call with [✂]
[390] UH, UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 - 17 May (Tranche 3).pdf, dated 27 April, 17 May, paragraph 26.3.
[391] FDB's response to RFI [✂]. FDB does not have visibility over the development cost of the customised integration between OptimiseRx and EMIS Web.
[392] EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, dated April 27 2023, question 29. The Parties told us they do not have visibility over the cost of developing the customised integration between EMIS Web and ScriptSwitch because it was developed 13 years ago, before ScriptSwitch was acquired by UH. In EMIS, 20230627 - EMIS Response to RFI 5.pdf, dated 22 June 2023, EMIS explains that the costs of developing Population 360 were [✂]. To meet Optum's Population 360 interface requirements, EMIS had to carry out further development work to amend its [✂] and [✂]. As a result, the one-off fee for the development of customised integration with Population 360 was [✂].
[393] FMN, paragraph 20.5, see also EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, page 18.
[394] EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, dated April 27 2023, question 27, see also, EMIS, Optum / EMIS phase 2 51213-2 - CONFIDENTIAL - EMIS Response to Third s109 of 8 June 2023 - 12 June 2023(34374210.1).pdf, question 29.

(c) Currently, Optum pays to EMIS a [✂]%[395] revenue share on the MO revenues it generates via EMIS's primary care EPR system (see more details in Table 9.1 below). This equated to annual payments of around £[✂] between 2019 and 2022.[396]

(d) According to the data provided by Optum, the on-going fee payable to primary care EPR systems suppliers for the customised integration is the [✂] cost of ScriptSwitch. In 2022, it amounted to [✂]% of the entire variable cost base, with the rest accounted for [✂].[397]

Table 9.1: Fees charged by EMIS for the operation of customised interfaces from 2016 to 2022

	Optum		FDB*	
	Revenue share (%)	*Total Commission paid (£)*	*Revenue share (%)*	*Total Commission paid (£)*
2016	[✂]	[✂]	[✂]	[✂]
2017	[✂]	[✂]	[✂]	[✂]
2018	[✂]	[✂]	[✂]	[✂]
2019	[✂]	[✂]	[✂]	[✂]
2020	[✂]	[✂]	[✂]	[✂]
2021	[✂]	[✂]	[✂]	[✂]
2022	[✂]	[✂]	[✂]	[✂]

Source: EMIS response to s109 1 Q29 and EMIS response to s109 3 Q9.
* Between 2016 and 2021, FDB's reported revenue share is [✂]. This is because the paid commission to EMIS was based on [✂] (EMIS S109 3 Q9). [✂]

Parties' views

9.8 The Parties told us that MO software uses both customised and IM1 integrations to interoperate with primary care EPR systems.[398]

(a) According to EMIS, most functionalities of ScriptSwitch and OptimiseRx which rely on a customised integration with EMIS Web cannot currently be supported by IM1 standards.[399]

(b) Optum considers that not every functionality required by Population 360 is currently within the scope of the IM1 standard.[400] It has not investigated the suitability of IM1 standards for ScriptSwitch as the [✂].[401]

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[395] FMN, paragraph 20.5.
[396] EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, dated April 27 2023, question 27. See also, EMIS, CONFIDENTIAL - EMIS Response to Third s109 of 8 June 2023 - 12 June 2023(34374210.1).pdf, dated 8 June 2023, 12 June 2023, question 29.
[397]EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, dated April 27 2023, 16 June 2023, Table 10.2.
[398] The Parties, Response to Issues Statement, 31 May 2023, paragraph 4.8.
[399] EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, dated April 27 2023, question 24.
[400] UH, UnitedHealth_EMIS_Response to CMA RFI 3 dated 2 June 2023 (9 June 2023).pdf, dated 2 June 2023, 9 June 2023, paragraph 2.3.
[401] FMN, paragraph 20.23.

(c) The Parties expect that future MO products which interact with EMIS Web may continue to use custom integrations.[402]

9.9 The Parties told us that some features of MO software could be based on IM1 standards. For example, EMIS told us that IM1 standards could be used to send patient data from EMIS Web to OptimiseRx.[403]

FDB's views

9.10 According to FDB, the customised integration between its MO products and EMIS Web is critical for its ability to compete. FDB told us that using IM1 standards instead of a customised integration would significantly lower the quality and capabilities of its MO software.[404]

9.11 FDB told us:

(a) IM1 standards cannot currently be used to replicate features and functionalities which it considers essential to its MO products, for example, the ability to trigger [✂].[405] IM1 standards would also limit [✂], decrease the frequency with [✂], and degrade the user experience.[406, 407] In contrast with the Parties' submission, FDB told us that there are types of patient data which currently cannot be sent from primary care EPR systems to MO software using IM1 standards.

(b) When deciding how to integrate its solutions within EMIS Web, EMIS had agreed with FDB [✂] (a means by which third parties can interact with data held in EMIS Web) [✂].[408, 409]

(c) FDB had considered launching its MO software in Scotland but was prevented from doing so because it was unable to put in place a customised integration with primary care EPR systems in Scotland.[410, 411]

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[402] The Parties, Response to the MO Working Paper, dated July 7 2023, 19 July 2023, paragraph 3.4.
[403] EMIS, UH - EMIS - Third Submission to the First EMIS Section 109 Request.pdf, dated 27 April 2023, 16 June 2023, question 24.
[404] [✂].
[405] [✂].
[406] [✂].
[407] [✂].
[408] [✂].
[409] Partner API is part of the IM1 Standard (see paragraph 9.58(d)).
[410] [✂].
[411] FDB told us that it [✂] due to plans to retire and/or replace their legacy clinical systems in Scotland. FDB's response to RFI 1, questions 11 and 18. [✂].

Primary care EPR systems rivals' views

9.12 Both TPP and Cegedim consider that the customised integration between MO software and primary care EPR systems is essential for MO software.[412] This is because customised integrations are required for MO software to pop up within the primary care EPR system at the appropriate moment in the prescription workflow.[413] Similarly, functionality to identify and record cohort-wide changes automatically are not currently supported by IM1 standards.[414]

Our conclusion

9.13 We have concluded that MO software suppliers require a customised integration with primary care EPR systems to compete effectively. This is because customised integrations support MO features and functionalities that are necessary or important for end-users and these features and functionalities could not be replicated by alternative integrations based on current IM1 standards. This is also supported by evidence from Optum, presented at paragraph 9.112 below, which suggests customers highly value the features offered by custom integrations.[415]

The role of the NHS

9.14 As explained in the '*Background*' chapter, the Parties' primary customers are various NHS organisations (such as GP practices and ICBs). The national NHS bodies (eg NHS England) can be customers for certain services such as PHM, but are also responsible for setting certain commercial terms and standards for suppliers.

9.15 The position of the NHS in the markets under consideration is relevant to both the ability and incentive of the Merged Entity to engage in partial foreclosure. Below we first consider whether there are specific powers and/or rights that the NHS could exercise in order to prevent the Merged Entity from having the ability to partially foreclose rivals. For example, this could be because partial foreclosure would result in a clear breach of NHS frameworks that would be readily detected and appropriate, preventative enforcement action taken in a timely manner. Second, in the '*Incentive*' section of our analysis, we consider whether the broader role and position of the NHS could deter the Merged Entity from deciding to engage in partial foreclosure. This could be because action (or the threat of it) by the NHS would make partial foreclosure

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[412] [✂].
[413] [✂].
[414] [✂].
[415] See also the customer evidence mentioned at paragraph 9.61.

unattractive. For example, it may be sufficiently likely that the NHS would seek to take an approach to the enforcement of its current frameworks and standards consistent with a broader application of the relevant provisions despite potential arguments by suppliers (including the Merged Entity) that they do not apply to the customised integrations between MO software suppliers and primary care EPR systems, or to update its frameworks to ensure that the behaviour would be captured.

9.16 The Merged Entity would only have the ability to partially foreclose FDB in those UK nations where EMIS, Optum and FDB are all active.[416] Currently, all three suppliers are active only in England and Wales. For the assessment of the ability of the NHS to prevent the Merged Entity from partially foreclosing FDB, only the English and Welsh NHS entities, NHS England and DHCW, are therefore relevant.

9.17 In this section, we consider the ability of NHS England to prevent foreclosure. This is due to our understanding that the position of the NHS is the same in England and Wales.[417] In addition, we note the total size of the MO software market in England in 2022 was 20 times larger than in Wales.[418] As such, the ability of the NHS to prevent foreclosure in England has more bearing on our assessment of the Merged Entity's ability to foreclose FDB than the equivalent ability of the NHS in Wales.

9.18 The Parties told us NHS England is an 'active regulator' with a range of enforcement powers at its disposal.[419] NHS England told us that its role in managing EMIS and, for example, its 'powers' to impose 'financial penalties' are on a contractual basis and not as a regulatory body, though it does also 'operate as mediator[s]/informal regulator[s]'.[420]

9.19 In this section, we consider:

(a) Whether NHS England would detect a foreclosure strategy by the Merged Entity directed at FDB;

(b) The enforcement measures available to NHS England under the relevant frameworks and standards;

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[416] FDB is currently not active in Scotland. Optum is currently not active in Northern Ireland and [✂]. EMIS plans to withdraw from Scotland by 2026 and [✂]. See paragraph 6.13.
[417] FMN, footnote 179.
[418] Optum's consolidated response to s109 1, 15 June 2023, Tables 13.2 and 13.3.
[419] The Parties, Response to the Medicines Optimisation Working Paper, dated 7 July 2023, 19 July 2023, paragraph 1.2.
[420] [✂].

(c) Whether foreclosure strategies could be addressed within the scope of NHS England's frameworks and standards; and

(d) Whether NHS England could expand the scope of IM1.

Detection by NHS England

Parties' views

9.20 The Parties told us that NHS England's existing lines of communication with other NHS bodies as well as suppliers would enable it to detect any foreclosure strategy used by the Merged Entity directed at FDB.

(a) First, the Parties told us that NHS England closely monitors EMIS's behaviour to ensure its compliance with NHS England's frameworks and principles.[421] Monitoring methods include regular calls and meetings with EMIS, audits of compliance with frameworks, engagement with different EMIS user groups, and analysis of third party complaints to NHS England about EPR suppliers.[422]

(b) Second, the Parties told us that any of the parties affected by the Merged Entity's foreclosure – GP practices, ICBs, and FDB – could escalate their concerns to NHS England, either directly or indirectly.[423]

Third party views

9.21 In relation to detection and resolution of complaints, FDB submitted that:

(a) Currently, FDB's only route of escalation is to the primary care EPR supplier, there is no escalation process to NHS England, and the escalation procedures do not adequately protect MO software suppliers;[424]

(b) Any low-level degradation could go unnoticed by an ICS until reviewing its monthly reports (with complaints addressed to FDB and not to EMIS), or by FDB until a significant enough drop in traffic occurred to trigger monitoring services to identify the change;[425]

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[421] The Parties, Response to Issues Statement, 31 May 2023, paragraph 3.40.
[422] The Parties, Response to Issues Statement, 31 May 2023, paragraphs 3.40, 3.41 and 4.17. See also Annex 1 to the Annotated Response to the Market Power Working Paper, paragraph 6.56.
[423] The Parties, Response to Issues Statement, 31 May 2023, paragraph 4.18.
[424] FDB, Response to the Provisional Findings, 1 September 2023, page 3, [✂] and [✂].
[425] [✂].

(c) Degradation issues will appear as the fault of the MO software supplier rather than the EPR system provider, and it is therefore unclear that the NHS would treat issues with MO software degradation as an issue with the EPR provider rather than the MO supplier;[426]

(d) Even if an escalation route to NHS England existed, FDB would be reluctant to take it out of concern that EMIS would penalise FDB as a result of any complaint, which could lead to further harm to FDB's business;[427] and

(e) Post-Merger, there is uncertainty around how complaints would be resolved by the Merged Entity in that there is no guarantee it will address concerns in the same manner as pre-Merger.[428]

9.22 We asked ICBs whether they would be able to detect and resolve interoperability issues between MO software and primary care EPR systems. Eight of the ten[429] ICBs that responded told us they regularly track the performance of MO software, either by collecting information from GP practices or the MO supplier.[430]

9.23 One primary care EPR system rival told us that GPs are unlikely to switch their primary care EPR system supplier in the event of the Merged Entity's foreclosure of FDB. As a result, the rival considers that users may choose not to report the foreclosure to NHS England.[431] According to this EPR system rival, even if NHS England receives complaints about a potential foreclosure, historically, NHS England's (and, previously, NHS Digital's) responses have been slow.[432]

NHS England's views

9.24 NHS England confirmed the Parties' views that it regularly monitors compliance of primary care EPR systems with its standards.[433] NHS England listed four methods – which include proactive and reactive approaches – that it uses for this purpose:[434]

(a) NHS England has a dedicated complaints process. Parties who suspect primary care EPR system suppliers of breaching NHS England's

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[426] FDB, Response to the Provisional Findings, 1 September 2023, page 3.
[427] Call with FDB, [✂].
[428] [✂].
[429] [✂].
[430] [✂].
[431] [✂].
[432] [✂].
[433] [✂].
[434] [✂].

standards can write a formal complaint to NHS England who then may choose to investigate the complaint. NHS England confirmed that it has used this method of monitoring in the past. For example, [✂].[435] NHS England told us that all complaints regarding supplier behaviour raised with it are investigated by the NHS England Commercial team. The Commercial team receives support from subject matter experts from other parts of NHS England depending on the nature of the complaint.[436]

(b) NHS England conducts audits of suppliers to ensure their compliance with its standards in specific areas. NHS England told us that the most recent audit of EMIS took place within the last 24 months.

(c) NHS England maintains lines of communication with GP practices and ICBs. For example, NHS England has two entities which support GP practices in the primary care EPR system procurement process. NHS England can use these channels to receive concerns about primary care EPR system suppliers directly from GP practices.

(d) NHS England requires primary care EPR system suppliers to follow an assurance process before their solutions can be listed on the DCS Catalogue. As part of this process, suppliers must evidence how their systems meet the requirements of the DCS Catalogue – including the Commercial and Interoperability Standards.

NHS England's enforcement measures

Parties' views

9.25 The Parties told us that NHS England has a range of mechanisms that it could use to enforce compliance of a primary care EPR system supplier with the Catalogue Agreement.[437] According to the Parties, these include the ability to:[438]

(a) impose financial penalties on suppliers for failing to meet the required service levels, or suspend compliance payments;

(b) initiate a remediation process which can include remedial plans that the supplier must follow;

[435] [✂].
[436] Email from NHS England dated 21 September 2023. [✂].
[437] The Parties, Annex 1 to the Annotated Response to the Market Power Working Paper, paragraph 6.60.
[438] The Parties, Annex 1 to the Annotated Response to the Market Power Working Paper, paragraph 6.60.

(c) make changes to the relevant framework and standards (including amending the IM1 standard to support additional new functionalities);

(d) terminate the Framework Agreement and so remove the supplier from the relevant framework, for any reason following 30 days' notice, or terminate individual call-off contracts;

(e) terminate the Catalogue Agreement and suspend or remove the supplier from the DCS Catalogue, for any reason on 90 days' notice;

(f) 'name and shame' non-compliant suppliers;

(g) commence the change control procedure under the Catalogue Agreement, which would incorporate new terms into the Catalogue Agreement; and

(h) seek an order for specific performance of particular obligations, claiming for damage or making a claim under an indemnity.

9.26 According to the Parties, in the past NHS England has used its powers to remove a primary care EPR system supplier from the DCS Catalogue, to require a supplier to make changes to its solution and imposed remedies in relation to software procured outside of the relevant frameworks.[439]

9.27 For example, the Parties told us that:[440]

(a) [✂]. Similarly, NHS Wales terminated its contract with Microtest in 2019 due to delays in supplying its primary care EPR system to GP practices in Wales.

(b) In 2022, NHS England required EMIS to continue providing data to [✂] – via a legacy interface which EMIS had planned to retire and replace with an interface based on IM1 standards. According to the Parties, [✂] raised concerns with NHS England which, in turn, requested that EMIS maintain the legacy interface until [✂] completed the IM1 onboarding process.

(c) In 2022, NHS England acted on a third party complaint alleging that EMIS limited a referral message to [✂], thereby affecting [✂] ability to access inbound referral messages. According to the Parties, NHS England required EMIS to interoperate with its rival's product, even though the product was procured outside of GP IT Futures.

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[439] The Parties, Response to Issues Statement, 31 May 2023, paragraph 3.49.
[440] The Parties, Response to Issues Statement, 31 May 2023, paragraph 3.49.

(d) NHS England required EMIS to make its Partner API available as a mandated IM1 interface following feedback from users, potential users and competitors that it had different capabilities and additional data fields to the IM1 interfaces.[441]

NHS England's views

9.28 Consistent with the Parties' views, NHS England told us that it has a number of enforcement mechanisms available to it to ensure suppliers with solutions on the DCS Catalogue, including primary care EPR system suppliers, comply with applicable standards.[442] NHS England confirmed that the mechanisms include imposing remedial plans[443] and financial penalties,[444] naming and shaming non-compliant suppliers,[445] and suspending or removing a solution from the DCS Catalogue.[446]

9.29 NHS England told us it has some experience of resolving disputes involving primary care EPR system suppliers.[447]

(a) NHS England told us that all complaints raised with it are investigated to consider whether a breach of applicable frameworks and standards has occurred.[448]

(b) It told us that, with respect to non-compliant primary care EPR systems suppliers, it would generally work with them to ensure contract performance rather than impose financial penalties.[449] To date NHS England has not resorted to withholding the compliance fee.[450] [✂].[451]

9.30 NHS England told us that suspending or removing a primary care EPR system from the DCS Catalogue would be extremely difficult and an option that – if possible – it would prefer not to pursue.[452] [✂].[453] It also told us that

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[441] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper, 19 July 2023, paragraph 3.10C.
[442] [✂].
[443] [✂].
[444] Paragraph 2.2 of Part C-1 of Schedule 4.1 to the GP ITF Agreement. GP IT Futures Contracts - Buyer Guidance - Confluence (atlassian.net)
[445] [✂].
[446] [✂].
[447] [✂].
[448] [✂].
[449] [✂].
[450] [✂].
[451] [✂].
[452] [✂].
[453] [✂].

removing either EMIS or TPP from the DCS Catalogue would lead to further concentration in the supply of primary care EPR systems.[454]

Third party views

9.31 One primary care EPR system rival told us that, in the context of customised integration, NHS England has no ability to view the details of such integration, impose any amendments, or enforce pricing or other restrictions. As a result, this rival considers that, in the event of the Merged Entity pursuing a foreclose strategy targeted at FDB, FDB would have no recourse to NHS England.[455]

9.32 In relation to the examples of NHS England's interventions shared by the Parties (and listed at paragraph 9.27 above), TPP submitted that these examples are not relevant, or that EMIS only complied because it chose to do so.[456]

9.33 TPP further submitted that EMIS's past behaviour suggests foreclosure is likely to take place. In particular, this rival submitted that in the past EMIS changed the format of its data back-ups for migration 'to prevent NHS organisations from moving to a rival GP system', and that while this was raised with NHS England several times, this issue took a decade to resolve.[457]

9.34 Another EPR system rival told us that suppliers of healthcare software outside of the relevant NHS frameworks can and do unilaterally increase prices.[458]

Scope of NHS England's frameworks and standards

Parties' views

9.35 The Parties told us that NHS England's jurisdiction includes ensuring the compliance of primary care EPR systems with the Catalogue Agreement and the Framework Agreement under GP ITF and the TIF.[459] According to the Parties, the Catalogue Agreement incorporates a set of commercial

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[454] [✂].
[455] [✂].
[456] TPP, Response to the Provisional Findings, 1 September 2023. In particular, TPP submitted that: the example in paragraph 9.27(a) is not relevant as the services provided by Microtest were covered contractually and the breach could therefore be remedied; in the examples in paragraphs 9.27(b)-9.27(d), NHS England asked EMIS to comply with a non-contractual requirement, and if EMIS did not want to comply, there would be no direct consequence.
[457] TPP, Response to the Provisional Findings, 1 September 2023.
[458] It told us of an example from Wales, where one third party supplier increased the price paid by that rival threefold. According to the rival, it had no ability to seek recourse from the DHCW as the supplier was not part of NHS frameworks. [✂].
[459] FMN, paragraph 20.14.

(**Commercial Standard**) and technical (**Interoperability Standard**) requirements that suppliers must meet.[460]

(a) The Parties told us that the Commercial Standard sets the requirements for suppliers (such as EMIS) in relation to the provision of, and access to, NHS data and interoperability with third party software.[461] For example, the Commercial Standard mandates that a supplier with a position of influence should not use its position unfairly to disadvantage other suppliers or reduce the potential for future competition.[462]

(b) In addition, the Parties told us that the Interoperability Standard sets out a number of interoperability principles and non-functional requirements that suppliers such as EMIS must adhere to (including in its dealings with third party suppliers).[463] According to the Parties, the Interoperability Standard sets the requirements for the IM1 standards and mandates suppliers to make the API functionalities within IM1 standards equally available to all third parties.[464, 465]

(c) The Parties also told us that customised integration offered by a supplier must follow NHS England's Open API requirements.[466]

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[460] FMN, paragraph 20.14-20.15.
[461] FMN, paragraph 20.18.
[462] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 4.
[463] The Parties, Annex 1 to the Annotated Response to the Market Power Working Paper, 22 February 2023, paragraph 6.19.
[464] The Parties told us that these requirements relate to the functioning of the customised integration, licensing arrangements with third parties, and access of third parties to the data held by suppliers. According to EMIS, Open API requirements are only relevant to customised integrations implemented after 2014 (when Open API came into force). As such, it applies only to the customised integration between EMIS and AnalyseRx, but not the customised integrations between EMIS and OptimiseRx or ScriptSwitch.
[465] FMN, paragraph 20.39.
[466] According to EMIS (EMIS, CONFIDENTIAL - EMIS Response to Third s109 of 8 June 2023 - 12 June 2023(34374210.1).pdf response to s109 3, question 11), the following Open API requirements are relevant to EMIS's customised integrations.

1. the API must have freely accessible documentation that has sufficient information that would enable a competent developer to make use of the API without further information;
2. developers must have non chargeable access to test APIs;
3. all commercial agreements relating to the development and use of open APIs must be fair and transparent;
4. data held by the data processor on the host system on behalf of the data controller must be made available as instructed by the data controller;
5. access to confidential data, including patient or clinical data, through any open API must meet, as a minimum, the same requirements for information governance, authentication and authorisation, and auditing as the host system (or EMIS Web);
6. licences for usage of open APIs by a consuming system with anonymous access must be royalty free, perpetual, non-exclusive and transferable;
7. licences for open APIs accessing patient or clinical data by a consuming system should be non-exclusive; and
8. the functionality must be discoverable, fit for purpose and reusable.

Additionally, EMIS told us that, in the context of its customised integration with AnalyseRx it 'must ensure that the interfaces meet "requirements for information governance, authentication and authorisation, and auditing" and ensure that each interface is "fit for purpose and reusable" at a technical level'.

(d) The Parties anticipate that going forward new custom integrations (or extensions to existing ones) will be made available to all third parties who require access for that particular use case, and will not be customised for specific third parties as a result of the obligations under the TIF.[467]

9.36 The Parties told us that the OptimiseRx and AnalyseRx custom integrations do not fall within the current IM1 standard and are not covered by the Interoperability Standard.

9.37 However, the Parties also told us that the AnalyseRx interface is covered by NHS England's GP ITF and TIF, and EMIS is working to ensure that the AnalyseRx interfaces are available for re-use by third parties.[468]

9.38 More generally, the Parties told us that *'all categories of interface used between EPR systems and MO software products are in practice regulated by NHS England'*.[469] They stated that NHS England's frameworks and standards '*are principles-based and are therefore interpreted, monitored and applied by the NHS on a broad and purposive basis*' and '*as a result, the NHS's frameworks and standards (including the Commercial and Interoperability Standards) will provide wide protections to FDB in relation to its modern interfaces* [like AnalyseRx], *even if the alleged foreclosure mechanisms 'on paper' fall outside of the NHS mandated standards and the Open API Policy.*'[470] The Parties state that, as a result, all of FDB's interfaces with EMIS Web are '*in practice regulated by NHS England*.'[471]

9.39 The Parties also told us that as suppliers to NHS England they are expected to act in accordance with HM Government Supplier Code of Conduct. This requires that '*a supplier with a position of influence gained through a contract should not use that position to unfairly disadvantage any other supplier or reduce the potential for future competition, for example by creating a technical solution that locks in the supplier's own goods or services*.'[472]

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[467] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.12.
[468] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.1 sets out definitions of 'legacy' and 'modern' interfaces, paragraph 3.3 describes FDB's products in these terms.
[469] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.5.
[470] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.5.
[471] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.6.
[472] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 2.12-2.14.

9.40 The Parties also told us that the NHS has the motivation to intervene in the market for the supply of MO software so as to prevent any partial foreclosure of FDB.[473]

NHS England's views

9.41 NHS England confirmed that its purview includes a primary care EPR system supplier's compliance with the Commercial and Interoperability Standards. However, it considers certain customised (typically bespoke) integration between primary care EPR system suppliers and third party software are not covered by the Interoperability Standard [✂]., although NHS England also told us that it considers the Commercial Standard is sufficiently broad that some key terms may apply even in that context (see further paragraph 9.191 below).[474, 475]

Third party views

9.42 FDB told us that NHS England does not currently have any enforcement measures available relating to the functioning of customised integrations.[476] FDB considers that NHS England's standards on the interoperability between primary care EPR systems and third party suppliers (such as FDB), relate only to integrations using IM1 standards,[477] and that FDB's customised integrations are not subject to NHS England's Commercial and Interoperability Standards.[478, 479] FDB also considers that the Catalogue does not apply to custom integrations and is therefore not a route to seek remedies.[480] However, we note that FDB also told us it has not had any direct discussions with NHS England about the enforceability of these standards or whether there are other escalation routes open to MO software suppliers.[481]

9.43 FDB believes that NHS England is focused on ensuring the EPR systems providers adhere to the commitments set out in the frameworks and, as such, is unlikely to focus on fixing integrations that currently sit outside of these frameworks.[482] FDB also told us it is not enough to be able to 'approach' the NHS as this provides no certainty of the protection afforded, nor is it sufficient

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[473] The Parties, Response to the Provisional Findings, 1 September 2023, paragraph 3.2.
[474] [✂].
[475] [✂].
[476] [✂].
[477] [✂].
[478] [✂].
[479] FDB also told us that no other NHS organisation has imposed any constraints on its integrations with EMIS Web. [✂].
[480] [✂].
[481] Call with FDB, [✂].
[482] Call with FDB, [✂].

to rely upon standards or a code of conduct if they are not enforceable for custom API integrations.[483]

9.44 Both main primary care EPR system rivals told us that NHS England's enforcement mechanisms do not extend to the customised integrations connecting MO software and primary care EPR systems.[484] [485] According to one rival, customised integrations fall outside of the jurisdiction of the GP IT Futures framework and are '*entirely unregulated*'.[486]

Ability to expand the scope of IM1

9.45 The Parties told us that the NHS has the ability to expand the functionality of IM1 interfaces by adding new functionalities, citing the Partner API example at paragraph 9.11(b) above.[487]

9.46 NHS England told us that, whilst it has not recently added any new functionalities to IM1, it is currently reviewing the standard and is considering expanding the functionalities it supports.

(a) According to NHS England, it may be possible to include a feature within its IM1 standards that would enable MO software to write back changes to patient records within primary care EPR systems.[488] However, NHS England told us it was not aware of the specific features and functionalities of MO software that are currently supported only by customised integrations with primary care EPR systems. Therefore, NHS England could not confirm whether the new features that it is considering for the future IM1 standard might be able to replicate the functionalities currently supported by customised integrations.[489]

(b) NHS England also told us that IM1 needs to be wide to cover as much of the market as possible, but this means that it does not fully cover the more bespoke integrations which currently bring innovation to the market.[490]

9.47 FDB considers there are technical limits on the extent to which NHS England could expand the IM1 standards to cover elements of customised integrations

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[483] FDB, Response to the Provisional Findings, 1 September 2023, page 3.
[484] [✂] and [✂].
[485] [✂].
[486] [✂].
[487] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.24.
[488] [✂].
[489] [✂].
[490] [✂].

used by MO software suppliers.[491] For example, FDB considers that it would not be possible to expand IM1 standards to: (i) support the triggering of the MO software [✂] at the appropriate moment in the primary care EPR system workflow or update [✂] with respect to OptimiseRx, as this requires deep integration between the MO software and primary care EPR systems; and (ii) support functionality that allows the MO software to add [✂] to EMIS Web with respect to AnalyseRx.

9.48 According to TPP it is unlikely that it will be technically feasible to develop IM1 standards to replicate the 'pop-up' functionality available via customised integration[492] within the next five to 10 years.[493]

Our conclusion

9.49 We consider that NHS England would be able to detect potential foreclosure. NHS England actively monitors primary care EPR system suppliers and there are multiple methods for customers or suppliers to alert NHS England. While FDB's current escalation processes do not include informing NHS England, we consider FDB would be able to approach NHS England should it have problems engaging with the Merged Entity. NHS England told us all complaints raised with it are investigated to consider whether a breach of applicable frameworks and standards has occurred. In that connection, we note that NHS England appears to have wide rights under the DCS Catalogue Agreement to request information from a supplier for the purpose of ascertaining that supplier's compliance with its obligations.

9.50 We consider that NHS England has a range of enforcement measures available to it, and the motivation to use these to ensure effective outcomes for the NHS. However, there is substantial uncertainty about the interpretation of certain provisions of the Commercial and Interoperability Standards in the context of customised integrations, such as those used by OptimiseRx and AnalyseRx, and therefore about whether the Merged Entity would be in breach of the Standards were it to pursue a foreclosure strategy targeted at FDB. In any event, the ultimate sanction available to NHS England if, for example, the Merged Entity failed to comply with a remediation plan, would be to suspend or remove EMIS Web from the DCS Catalogue – which NHS England told us would be extremely difficult to do. Moreover, any attempt at enforcement by NHS England could be challenged by the Merged Entity. We therefore conclude that the use, or threatened use, of these measures by

[491] [✂].
[492] [✂].
[493] [✂].

NHS England does not prevent the Merged Entity from having the ability to partially foreclose FDB.

9.51 We consider whether the evidence indicates NHS England can affect market outcomes more broadly in the '*Incentive*' section of our analysis.

9.52 We have also concluded that it appears unlikely that NHS England will expand IM1 standards to include functionalities of the existing customised integrations between MO software and primary care EPR systems, particularly in the short to medium term.

Foreclosure mechanisms

9.53 In this section we consider the ability of the Merged Entity to engage in specific foreclosure mechanisms. We consider four mechanisms:

(a) Degradation of integration between EMIS Web and FDB's MO software;

(b) Degradation of FDB's MO software's user interface;

(c) Raising FDB's costs;[494] and

(d) Using FBD's commercially sensitive information (**CSI**) shared with EMIS.

9.54 We are mindful that some of the mechanisms may be used in combination and are not attempting to predict the precise actions the Merged Entity might take.[495]

9.55 We have also considered the constraints that may prevent the Merged Entity from exercising these foreclosure mechanisms. The extent to which the NHS's application of its frameworks and standards would prevent the Merged Entity from having the ability to partially foreclose is considered in the section '*The role of the NHS*' above and cross-referred to in the sections below on specific foreclosure mechanisms.

Foreclosure mechanism 1 – degrading the integration between EMIS's primary care EPR system and FDB's MO software

9.56 In this section we assess whether, post-Merger, the Merged Entity would be able to partially foreclose FDB by degrading the customised integration between FDB's MO products and EMIS Web.

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[494] Under this foreclosure mechanism, we also considered FDB's concern that that post-Merger FDB would be [✂], as Optum will not have to pay fees to EMIS following the Merger (see paragraph 9.88 below).
[495] MAGs, paragraph 7.13.

FDB's views

9.57 FDB told us that there would be nothing to prevent the Merged Entity from engaging in one of the following actions, which would lead to the degradation of the integration between EMIS Web and FDB's MO software:

(a) Reducing the level of support and maintenance provided by EMIS;

(b) Reducing the quality of the current customised integration with FDB's MO software; or

(c) Discontinuing the operation of the customised integration altogether.

9.58 FDB told us that the Merged Entity could reduce the level of support and maintenance provided by EMIS, resulting in FDB losing customers.[496] FDB told us that:

(a) The response speed to software bugs is critical for the functioning of FDB's MO software (regardless of whether they are caused by an error on EMIS's or FDB's side).[497] If its MO software suffers from errors, time outs, or integration issues on a repeated basis, ICBs may penalise FDB.[498]

(b) Its contract with EMIS – due to expire in [✂] – regulates the maintenance that EMIS is obliged to provide to FDB.[499] As a result of its long-standing relationship with EMIS, EMIS's current support goes above and beyond the terms set out in its agreement with FDB.

(c) If EMIS were to reduce its support from the current level, FDB's ability to remedy technical issues would decline and users' confidence in FDB would be undermined, potentially leading to FDB losing customers.[500] FDB considers that the enforcement and/or penalty options are unclear in this scenario, and that it may not be able to prevent EMIS from lowering its support below the contractually agreed level.[501]

(d) The availability of data sharing agreements with NHS health organisations permitting the sharing of data with FDB would not prevent EMIS from degrading integration.[502] Degrading the integration to the level of the IM1

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[501] [✂].
[502] [✂].

Partner API would result in a material degradation of its solution, resulting in foreclosure.[503]

9.59 FDB told us that EMIS could scale back the existing integration or prevent the development of new features and functionalities of FDB's MO software. Moreover, after the Merger, EMIS could prioritise the development of new features and functionalities for Optum's MO products over FDB's.[504]

9.60 FDB told us that past cases where FDB's integration with EMIS Web has been affected caused it financial harm. For example:

(a) In [✂], OptimiseRx's [✂].[505] FDB told us the issue took around [✂] to resolve, required FDB to directly [✂] complaints with customers, resulting in a [✂], and FDB firmly believe contributed to the [✂] of the customer.[506]

(b) In [✂], FDB discovered EMIS had disabled the [✂]. FDB told us that internal investigation, escalation to EMIS, and resolution took [✂].[507] In its letter escalating the matter to EMIS, FDB indicated that the issue could result in its customers [✂] and a competitive disadvantage compared to Optum's ScriptSwitch.[508]

Parties' views

9.61 The Parties argue that, even if EMIS has the technical ability to reduce maintenance, scale back the quality of the current customised integration, or discontinue the customised integration, there are several factors that prevent it from being able to take these actions in practice. The Parties told us:

(a) NHS England would be able to detect this behaviour and punish EMIS.[509] We set out the Parties' views on this in the section '*The role of the NHS* ' above.

(b) Any reduction in integration would breach the service provisions in FDB's contract with EMIS which would allow FDB to take remedial action.[510]

(c) Complaints raised by FDB over past integration issues illustrate FDB's readiness to escalate matters using the existing framework. FDB

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[507] [✂].
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[509] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 35.
[510] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 4.10.

escalated the [✂] of OptimiseRx's [✂] in [✂], and EMIS then responded to resolve the issue.[511]

9.62 Moreover, the Parties argue that the importance of the customised integration between primary care EPR systems and MO software is overstated.[512] The Parties told us that the interactions between MO software and primary care EPR systems are limited.[513] For example, the 'vast majority' of upgrades to ScriptSwitch in recent years did not relate to the interaction with primary care EPR systems.[514]

9.63 However, contrary to this view, other evidence provided by Optum suggests that customers value high quality integration between MO software and primary care EPR systems.

(a) In technical specifications listed in an MO software tender document, a customer identifies that the MO software [✂].[515]

(b) In response to an RFP issued by one ICB, Optum identifies deep integration with EMIS as one of its selling points. In particular, Optum flagged that ScriptSwitch has [✂] which gives prescribers [✂] with EMIS workflow and better [✂].

(c) In its loss analysis from 2020, Optum identifies that the [✂] reason for customers [✂] ScriptSwitch was its [✂].[516] According to this document, [✂], Optum intended to expand [✂]. Based on third party feedback, [✂].[517]

9.64 Finally, the Parties told us that Optum maintains and provides fixes for its MO software products, without EMIS's support.[518]

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[511] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 4.13.
[512] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 35.
[513] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023.
[514] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 35.
[515] Optum's consolidated response to s109 1, 15 June 2023, Annex [✂]
[516] Annex [✂] to UH, 20230616 - Optum's consolidated response to s109 1, dated 27 April 2023, 17 April 2023, question 14, [✂].
[517] [✂].
[518] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf - Documents (sharepoint.com), 22 February 2023, page 35.

Primary care EPR system rivals' views

9.65 Both TPP and Cegedim told us that EMIS could in practice degrade the quality of the integration between EMIS Web and FDB's MO software.

9.66 TPP and Cegedim told us that EMIS has the ability to lower the technical support available to FDB, for example by slowing down its response to software issues raised by FDB.[519] According to TPP, such action would not be costly and there would be no recourse to punish this behaviour.[520] Cegedim told us that such a strategy could lead to FDB being unable to provide adequate service to GPs,[521] and that EMIS has the ability to damage its current level of integration with FDB to the extent where GP practices' use of FDB's MO software would reduce and the desired financial and safety outcomes from MO usage would not be delivered.[522] Moreover, both TPP and Cegedim told us that EMIS would have an ability to combine this strategy with providing greater technical support for Optum, prioritising it over FDB.[523, 524]

9.67 Both rival suppliers consider that the most potent foreclosure strategy available to the Merged Entity would be to discontinue the customised integration with FDB altogether. Cegedim told us that this strategy would be just as quick as reducing support or decreasing the quality of integration, and would result in immediate foreclosure of FDB.[525] TPP told us that EMIS can unilaterally suspend the customised integration with FDB as it fully controls the workflow of EMIS Web.[526]

Our conclusion

9.68 We consider that the Merged Entity would have the ability to partially foreclose FDB by degrading the customised integration between EMIS Web and FDB's MO software, particularly by reducing the level of support and maintenance provided to FDB. Evidence provided by Optum shows that customers value high quality integrations. Evidence from FDB and EMIS also indicates that some collaboration is important for development and resolving issues. Further, past disruptions to the existing integrations indicate that there can be a lag between detection and resolution. We therefore consider that EMIS would have the technical ability to degrade FDB's services.

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9.69 We do not consider, for the reasons set out above, that the applicable NHS frameworks and standards would prevent the Merged Entity from having the ability to partially foreclose FDB using this foreclosure mechanism.

Foreclosure mechanism 2 – degrading the user interface of FDB's MO software

9.70 In this section we consider whether, post-Merger, the Merged Entity would have an ability to partially foreclose FDB by degrading the user interface of FDB's MO software.

FDB's views

9.71 FDB told us that its MO software is deeply embedded within EMIS's workflow.[527] This [✂] necessary to ensure that FDB's MO software appears to prescribers as a [✂],[528] which is important to allow its software to be used efficiently.[529]

9.72 FDB also told us deep integration enables EMIS to make changes to how FDB's software appears to users, for example to its speed, the number of clicks [✂], and whether users are required to [✂] FDB's MO software [✂].[530]

9.73 FDB considers a deterioration of the user interface of its MO software would be detrimental to users and FDB's ability to compete. It told us:

(a) An increase in the number of clicks to complete an action within its MO software would reduce the time a GP has available for patients and would increase the administrative burden to issue prescriptions.[531] It also provided anonymised feedback from OptimiseRx customers to support the view that the EMIS Web user interface is integral to FDB's solution and valued by its customers.[532]

(b) If its MO software were to be slowed down, this could result in GPs no longer using FDB's MO software. [✂].[533]

(c) Interface changes that make FDB's MO software more inconvenient or time-consuming to use could lead to customers taking action against FDB, for example requesting a refund from FDB or terminating the

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[531] [✂].
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agreement. [✂]. FDB also told us that in some of these cases it had to address and settle these complaints itself.[534]

Parties' views

9.74 EMIS told us that it could not make any changes to FDB's MO software user interface due to technical constraints, contractual constraints with FDB, and the ability of the NHS to quickly detect and penalise any degradation in the user interface. The Parties told us that:

(a) [✂] and an EMIS solution (EMIS Recruit) share the integration with EMIS Web used by AnalyseRx and would therefore also be affected by any degradation. Making changes to the integration requires significant planning and testing, involving all partners who could be impacted.[535]

(b) Making changes without the agreement of the MO supplier could breach EMIS's clinical safety management process obligations and potentially harm patients.[536]

(c) Additionally, any changes the Merged Entity could make to the user interface of the MO software would be quickly detected by GPs, ICBs or the impacted MO software supplier who could escalate the issue to several bodies.[537] We set out the Parties' views on NHS's ability to monitor and detect non-compliance and enforce its standards in the section '*The role of the NHS'* above.

9.75 The Parties also submitted that the quality of the user interface is not an important competitive component.[538]

(a) Optum told us that if these features were important to customers, they would be identified in procurement documents as material requirements but it is not aware of any procurement documents having done so.[539]

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[534] [✂]. FDB, Response to RFI
[535] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 5.30.
[536] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 39.
[537] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 39.
[538] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 39.
[539] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 39.

(b) The Parties argue that changes to the MO software's user interface – such as adding mouse-clicks to the workflow of FDB's MO software – would amount to an inconvenience, not to foreclosure.[540]

9.76 However, Optum's internal documents appear to indicate that the high quality of user interface of MO software is important to customers. For example:

(a) Tender documentation provided by Optum suggests that ICBs consider a high quality user interface of MO software to be a must-have criterion required of suppliers.[541] For example, one RFP document states that a supplier must [✂].[542] The same document mandates that MO software supplier must [✂].[543] [✂].[544]

(b) Optum's internal [✂] appear to indicate that user interface is important in driving sales of Optum's MO software and is [✂]. In a [✂] for Population 360, Optum identified user experience as [✂].[545] Furthermore, in Optum's competitor analysis of FDB, one of the action points that Optum [✂].[546] In addition, in Optum's [✂].[547]

(c) Finally, ICBs have flagged to Optum the importance of a high-quality user interface in some of the surveys organised by Optum. In [✂] annual survey of ScriptSwitch customers undertaken in [✂], out of [✂] customers (ICBs) [✂] identified ease of use [✂].[548]

Primary care EPR system rivals' views

9.77 According to TPP, primary care EPR systems suppliers have full control over the user interface. TPP considers that EMIS could easily alter the code integrating its primary care EPR system and FDB's MO software to decrease the speed at which the MO software pop up appears to users or to negatively impact the way the MO software is presented to users. TPP also considers that EMIS could degrade the user interface of FDB's MO software without harming the user interface of Optum's MO software.

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[540] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 40.
[541] UH, response to s109 1 Q27, Annex [✂]; Annex [✂]; Annex [✂]; Annex [✂] Consolidated Responses 3.1.docx (Apr 2022), page 72.
[542] UH, response to s109 1 question 27, Annex [✂]
[543] UH, response to s109 1 question 27, Annex [✂]
[544] UH, response to s109 1 question 27, Annex [✂]
[545] UH, response to s109, question 14, Annex [✂]
[546] UH, response to s109, 1 question 14, Annex [✂]
[547] Optum's response to s109, 1 question 14, [✂]
[548] UH, response to s109 1, question 5, [✂]

9.78 Similarly, Cegedim told us that it is possible for primary care EPR systems suppliers to affect the user interface of the MO software. According to Cegedim, this could be done via increasing the number of clicks prescribers need to make or by decreasing the speed at which the MO software pop up appears to users.

Customers' views

9.79 We asked ICBs to identify the features and functionalities of MO software that they consider when choosing the MO software supplier. Eight out of ten ICBs that responded to the question considered user interface – for example the ease of MO use or efficient MO functioning – as relevant factors when choosing the MO software supplier.

9.80 EMIS NUG told us that prescribers consider the ease of use and efficiency of MO software to be important given the time constraints that they face.[549]

Our conclusion

9.81 We consider that EMIS would have the ability to partially foreclose FDB by decreasing the quality of FDB's MO interface. Based on FDB's and primary care EPR system rivals' submissions we understand that primary care EPR system suppliers are able to make changes to customised integrations and reduce the performance of MO software, for example the speed or ease of software use. Customer evidence and Optum's internal documents show user interface quality is an important parameter on which Optum and FDB compete.

9.82 We consider, for the reasons set out above, that the applicable NHS frameworks and standards do not prevent the Merged Entity from having the ability to partially foreclose FDB using this foreclosure mechanism.

Foreclosure mechanism 3 – raising the costs of FDB

9.83 In this section, we consider whether, post-Merger, the Merged Entity would have an ability to partially foreclose FDB by increasing the fees it charges FDB for the customised integration with EMIS Web.

9.84 We focus on EMIS's ability to raise the ongoing fee paid by FDB for the operation of its customised integrations. We consider the Merged Entity would most likely focus on this fee to raise FDB's costs due to its recurring nature. In contrast, development fees are one-off sunk costs. FDB has already incurred

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[549] [✂].

these costs for its current products and we understand FDB does not currently plan to build new customised integrations with EMIS Web for any of its MO products.[550]

FDB's views

9.85 FDB told us that, after the initial term of the current contract ends in [✂], EMIS could try to (i) increase the level of commission it charges to FDB or (ii) negotiate the introduction of other new fees.[551]

9.86 FDB also told us it is not aware of any regulation imposed by the NHS that would prevent EMIS from increasing the commission for the maintenance of the customised integration. According to FDB there is no cap on the maximum commission or fees that could be payable to EMIS.[552]

9.87 FDB considers it would be in a weak negotiating position to resist any increase. It told us that:

(a) If EMIS were to increase its fees, it would need to choose between accepting the higher price or rejecting the agreement. By rejecting the agreement, FDB would not be able to offer the same level of functionality and quality of its MO software to customers who use EMIS's primary care EPR systems. This would be equivalent to losing access to [50-60%] of the market in the UK. [553, 554]

(b) In previous contractual negotiations with clinical system suppliers, including EMIS, FDB has been forced to accept terms it would not ordinarily agree to.[555]

(c) While the share of revenue FDB pays EMIS has decreased since 2013, the absolute commission it pays to EMIS has increased materially over the years with FDB's growing market share.[556]

9.88 FDB also raised a concern that that post-Merger FDB would be [✂], as FDB is required to pay [✂] of its revenues to EMIS (see paragraph 9.7 above),

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[556] [✂]. According to FDB, its revenue share payable to EMIS for OptimiseRx decreased from [✂]% (sliding scale) to [✂]% (sliding scale) in 2017 when a new agreement with EMIS was signed. It was further decreased to a fixed [✂]% in 2022, when the most recent agreement was signed which included FDB's revenues generated from OptimiseRx and AnalyseRx. According to EMIS, the average revenue share that FDB paid EMIS decreased between 2016 and 2022 from [✂]% to [✂]% (see Table 9.1).

while Optum will not have to pay such fees to EMIS following the Merger.[557] FDB also submitted that, following the loss of a recent tender, [✂], and that it believes that 'this [✂] reduced price was submitted in anticipation of getting clearance'.[558]

Parties' views

9.89 The Parties told us that the Merged Entity would not be able to implement a foreclosure strategy based on raising the price of accessing primary care EPR systems via customised integrations.[559] According to the Parties, the fee for the customised integration with MO software suppliers is subject to NHS frameworks and standards, as well as wider government contract rules.

(a) The Parties submit that although Optum's and FDB's custom integrations fall outside the Commercial Standard and IM1 standards underlying the GP ITF framework (and the TIF), NHS England applies the relevant principles broadly and that EMIS and EMIS Web must still comply with all the principles and objectives of the GP ITF framework, including to 'provide an open, dynamic and competitive market' and to 'allow interoperability between systems'.[560]

(b) Given this, the Parties consider that if an MO software rival believed that the Merged Entity was not complying with these principles, it could complain to NHS England which would be able to intervene and remedy the situation, including in cases falling strictly outside the standards.[561]

(c) The Parties told us that the NHS may at any time change the terms of trade for purchasing primary care EPR systems, including in connection with the price and terms of access for third parties (such as the price of development fees and revenue share arrangements with respect to integrations for MO software).[562]

9.90 The Parties also argue that if EMIS was unconstrained and had market power, they would expect the majority of MO profits to be realised by EMIS, rather than the MO software suppliers. EMIS currently charges MO software suppliers a commission of [✂].The Parties argue that the [✂] EMIS receives

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[557] FDB, Response to the Provisional Findings, 1 September 2023, page 6 [✂].
[558] FDB, [✂] and FDB, response to RFI [✂].
[559] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, paragraph 54b.
[560] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, paragraphs 53-54.
[561] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, paragraph 53.
[562] The Parties, Optum / EMIS phase 2 51213-2 - UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, dated 7 July 2023, 19 July 2023, paragraph 4.25.

from MO software suppliers is inconsistent with EMIS being unconstrained and having market power.[563] We note that the current level of commission already represents [✂] costs for MO suppliers, as set out at paragraph 9.7(d).

Primary care EPR systems rivals' views

9.91 TPP and Cegedim told us it was feasible for a primary care EPR system supplier to unilaterally raise the fees it charges to MO software suppliers.[564] TPP explained there is no real constraint from NHS England to stop an EPR system supplier from raising fees it charges to a MO software supplier, given that custom integrations fall outside of GP IT Futures frameworks such that the fees charged are not governed by NHS standards.[565] Cegedim explained that as primary care EPR system access is a fundamental input for MO software, any primary care EPR system supplier could unilaterally increase service fees.[566]

9.92 As an example, one of the primary care EPR systems rivals mentioned its own experience of a third party solution supplier unilaterally increasing the fees where the solution procured was outside of the NHS frameworks (GP IT Futures and the TIF).[567] The EPR system rival told us that in order to sell its EPR system in certain UK nations, the relevant NHS bodies required it to procure a document management service, of which there is only one active supplier in the market.[568] The primary care EPR system rival told us that, given the lack of available alternatives, the document management service supplier was able to almost double the fee it charged to the primary care EPR system rival.[569]

Our conclusion

9.93 We consider that the Merged Entity would have sufficient bargaining power to partially foreclose FDB by raising the fee paid by FDB for integration with EMIS Web once FDB's current agreement with EMIS expires. FDB currently pays EMIS a recurring fee for the maintenance of the customised integration between FDB's MO software and EMIS Web set as the result of commercial negotiations between the two parties. We consider that a lack of outside

[563] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, paragraph 54.
[564] [✂].
[565] [✂].
[566] [✂].
[567] [✂].
[568] [✂].
[569] [✂].

options means EMIS would be able to significantly increase this fee post-Merger.

9.94 We do not consider, for the reasons set out above, that the applicable NHS frameworks and standards would prevent the Merged Entity from having the ability to partially foreclose FDB using this foreclosure mechanism.

9.95 In relation to FDB's concern about competition [✂] post-Merger (see paragraph 9.88 above), we consider that Optum would, in principle, be able to reduce its price after the Merger as it would no longer have to pay EMIS a proportion of its revenues. However, we also note that the fee currently paid by Optum to EMIS covers development costs and ongoing support for the custom integration between ScriptSwitch and EMIS Web (see paragraph 9.7 above). Since these costs will still be incurred by the Merged Entity post-Merger, the fee paid by Optum to EMIS is likely to overstate the amount by which Optum could be able to reduce its price post-Merger. We also note that in ICB areas where some GP practices use TPP's or Cegedim's EPR system, Optum's ability to profitably reduce its price post-Merger would be further limited. We consider whether the Merged Entity would have the incentive to engage in this behaviour in the 'Incentive' section below.

Foreclosure mechanism 4 – using CSI shared by FDB with EMIS

9.96 In this section, we consider whether, after the Merger, the Merged Entity would be able to partially foreclose FDB by sharing FDB's CSI with Optum.

FDB's views

9.97 According to FDB, EMIS currently has access to a range of CSI related to FDB's MO software. FDB told us that, in the course of doing business with EMIS, it regularly (typically on a quarterly basis) shares with EMIS:[570]

(a) commercial information identifying its current MO software customers and revenue. This information is collected for the purpose of invoicing and includes for every FDB customer the price paid (which may include discounts) and contract term;[571] and

(b) technical information about its future products, including product roadmaps outlining solution enhancements or changes as well as new solutions FDB plans to release up to a year in advance.[572] FDB told us it

[570] [✂] FDB response to the Provisional Findings, 1 September 2023, pages 8-9.
[571] See also call with FDB, [✂].
[572] See also call with FDB, [✂].

shares this information with EMIS to facilitate the roll out of new functionalities of its MO software in EMIS Web.

9.98 FDB also told us that, due to deep integration between FDB's MO software and EMIS Web, EMIS has real-time access to:

(a) [✂];[573] and

(b) [✂].[574]

9.99 FDB also submitted that it is currently involved in detailed discussion with EMIS to integrate its product with [✂].[575]

9.100 FDB expressed a concern about the Merged Entity's access to its CSI, which FDB described as the 'sum total of all [its] Intellectual Property'.[576] FDB considers that it 'has no choice but to share this information with EMIS to make [its] product work',[577] [578] and that if Optum were in possession of this information, [✂], including by [✂].[579] [✂] that access to the FDB content and integration would enable the Merged Entity [✂], and that 'this in itself is sufficient incentive to access FDB's [CSI]'.[580]

9.101 According to FDB, the CSI shared with the Merged Entity would allow Optum to ensure parity of functionality with FDB.[581] Based on the information shared, the Merged Entity could:

(a) [✂];[582]

(b) [✂];[583] and

(c) [✂].[584]

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[573] When suggesting an alternative medication to a prescriber, FDB's MO software sets out the reasoning behind the recommendation, including references to patients' data. This message to prescribers represents FDB's algorithms in words. FDB told us that EMIS has access to all such messages. According to FDB, the Merged Entity could reverse-engineer the messages to replicate FDB's algorithms without investing in the research to construct the correct and relevant rules. See [✂] and FDB response to the Provisional Findings, 1 September 2023, pages 8-9.
[574] [✂], and FDB, Response to the Provisional Findings, 1 September 2023, pages 8-9.
[575] FDB, response to RFI [✂].
[576] FDB, [✂].
[577] FDB, [✂].
[578] FDB told us discussions with EMIS about a transition to [✂] require a full and detailed analysis of FDB's current solutions and CSI. Conversations have included all elements of FDB's product, not just the integration. FDB, RFI [✂].
[579] FDB, response to RFI [✂]; FDB, Response to the Provisional Findings, 1 September 2023, pages 8-9; FDB, response to RFI [✂]; Call with FDB, [✂].
[580] FDB, response to RFI [✂].
[581] FDB, [✂]; FDB's response to RFI [✂].
[582] FDB, [✂]; FDB, response to RFI [✂].
[583] FDB, [✂].
[584] FDB, [✂]; Call with FDB, [✂].

9.102 FDB also considers that the commercial information it shares with EMIS could be used by the Merged Entity to undercut FDB on price.[585, 586] [✂].[587]

9.103 FDB submitted several documents which, according to FDB, demonstrate the CSI it shares with EMIS. These included [✂].[588] [✂][589] [✂][590] [✂].

9.104 FDB also told us that its agreement with EMIS contains safeguards protecting FDB's CSI.[591] However, while FDB could sue EMIS for a breach of contract,[592] it considers this safeguard ineffective because it is reactive and would require FDB to first detect and then prove the breach.[593] It also told us there is not enough protection to prevent CSI being shared between Optum and EMIS post-Merger.[594]

Parties' views

9.105 EMIS told us that it receives information on product updates and technical details necessary for EMIS to resolve technical faults from many third party partners active in supplying software or services requiring integration with, or data from, EMIS.[595] The types of technical information that EMIS receives specifically from MO software suppliers, such as FDB and Optum, include:[596]

(a) the MO software supplier's requirements from EMIS and reasons for them, including details of how the product/solution functions;

(b) user stories (ie descriptions of features of a product/solution from the perspective of the user, including customer needs and requirements and the interfaces required to meet those needs from a technical perspective);

(c) descriptions/diagrams of how a particular supplier's products function on a technical level;

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[585] FDB, [✂]; Call with FDB, [✂].
[586] FDB told us that it had used external auditors in the past when engaging with EMIS. However, FDB consider that even if external auditors were used to minimise the amount of data shared, EMIS would be able to calculate FDB's average price per patient. Call with FDB, [✂].
[587] FDB response to RFI [✂].
[588] FDB, [✂], see also FDB, RFI [✂].
[589] FDB, [✂], see also FDB, RFI [✂].
[590] FDB, [✂], FDB's response to RFI [✂].
[591] [✂].
[592] [✂].
[593] [✂]. Call with FDB, [✂].
[594] [✂].
[595] EMIS, Optum / EMIS 51213 - EMIS - Response to Q4 - Sec 109 Notice of 8 December 2022.pdf - Documents (sharepoint.com), dated 8 December 2022, question 4, paragraphs 4.12.3. – 4.12.5.
[596] EMIS, Optum / EMIS 51213 - EMIS - Response to Q4 - Sec 109 Notice of 8 December 2022.pdf - Documents (sharepoint.com), dated 8 December 2022, question 4, paragraph 4.17.

(d) plans for a supplier's products going forward, and details of how the partner may be able to work with EMIS to achieve certain developments; and

(e) information for the purposes of assessing compliance with medical devices regulations.

9.106 EMIS also told us that, occasionally, it receives information about FDB's allocated and actual development costs in relation to its MO software.[597]

9.107 The Parties submitted that the concerns related to CSI identified by FDB are not supported by the evidence, and that the information provided by FDB to EMIS would not allow Optum to improve its products or gain any advantage since: (a) EMIS receives very limited CSI from FDB (if any); (b) the information shared with EMIS is not capable of providing Optum with the alleged advantages; and (c) post-Merger there will be a number of barriers that will prevent any FDB information flowing from EMIS to Optum.[598, 599]

9.108 The Parties submitted that the technical information EMIS receives from FDB is high-level and not sensitive. In particular, the Parties told us that:

(a) The information on developments which EMIS receives is limited to the descriptions of FDB's solutions which relate to the interface with EMIS Web, as well as high-level plans related to the relevant technical development.[600] The Parties claim that any such information from FDB has to date pertained to the trigger points required by the FDB interface (ie where a pop-up may occur), which should be readily deducible and common to both FDB and Optum.[601]

(b) Any information that MO software suppliers currently share with EMIS is largely within their discretion.[602] According to the Parties, this is especially

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[597] EMIS, Optum / EMIS 51213 - EMIS - Response to Q4 - Sec 109 Notice of 8 December 2022.pdf - Documents (sharepoint.com), dated 8 December 2022, question 4, paragraph 4.17.
[598] The Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, paragraphs 1.4 and 5.1.
[599] Optum also submitted that it is not aware of any comments or communications made to prospective or current ScriptSwitch customers since the announcement of the Merger relating to the Merger [✂] in terms of advanced content or functionality. Parties' response to the CMA's s109 dated 15 September, questions 1-2. Optum / EMIS phase 2 51213-2 - UH_EMIS_Response to CMA's s109 dated 15 September 2023.pdf
[600] The Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023' paragraph 2.2(iii)
[601] The Parties, Response to the MO working paper, paragraph 4.30, The Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023', 18 September 2023 paragraph 2.2(iii).
[602] The Parties, Annotated response to the Issues Letter, 22 February 2023, page 48. See also; The Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023', 18 September 2023, paragraph 3.2.

the case in relation to MO software suppliers' strategic software development plans.[603] Optum told us that it currently [✂].

(c) EMIS understands that the messages FDB distributes [✂] are a product of FDB's algorithms but do not contain the algorithms themselves. Further, Optum understands that the message logic is based on publicly available information.[604] EMIS does not receive information on rejection reasons.[605]

(d) Contrary to FDB's view, EMIS does not receive information pertaining to the roadmap for FDB's actual product.[606]

9.109 The Parties also told us that EMIS receives FDB's revenue information in an aggregated [✂] form which EMIS does not consider to be sensitive.[607] The Parties noted that as far as they are aware, FDB's prices are publicly available on G-Cloud.[608]

9.110 The Parties told us even if this information were accessed by Optum post-Merger, it would not provide Optum with a competitive advantage.[609] In particular, the Parties submitted that, even if the information provided by FDB did provide commercially sensitive insights into FDB's product designs or plans, differences in the design between Optum and FDB's products mean that in many situations adopting FDB updates could require a fundamental redesign of Optum's product which would be uneconomical.[610] The Parties also submitted that Optum is already able to track developments to FDB's MO product as a result of being active in the market and (a) receiving competitive bid feedback; and (b) accessing publicly available information (eg FDB's promotional material).[611]

9.111 Additionally, the Parties consider that there are effective safeguards that would protect FDB's CSI shared with EMIS. The Parties submitted that, post-

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[603] The Parties, Annotated response to the Issues Letter, 22 February 2023, page 48.
[604] Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023' paragraph 2.2(i).
[605] Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023', paragraph 2.2(vi).
[606] The Parties, Response to the Medicines Optimisation Working Paper, 19 July 2023, paragraph 4.30. Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023', 18 September 2023, paragraph 3.2,
[607] Parties, 'UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023' paragraph 2.2(vii)
[608] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, dated 7 July 2023, 19 July 2023, paragraph 4.30.
[609] The Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, 18 September 2023, paragraph 3.3.
[610] The Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, 18 September 2023, paragraph 3.4(i).
[611] The Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, paragraph 3.4(ii).

Merger, EMIS will be [✂] to Optum.[612] The Parties also told us that, after the Merger, EMIS will continue to comply with its legal requirements on sharing CSI and the Merged Entity would implement best practice confidentiality measures to avoid FDB's CSI being shared with Optum.[613] According to the Parties, such measures could include firewalls, information barriers or physical separation between the relevant teams.[614] [615] The Parties further submitted that Optum and EMIS must also comply with strict conflict of interest rules set by the NHS, and that the Merged Entity will be contractually prohibited from using FDB's confidential information against FDB.[616]

Optum's internal documents

9.112 Optum's internal documents appear to indicate that quality is an important feature in the MO market, that customers consider FDB's products to be of a [✂] quality than Optum's, and that this [✂] has been sustained over several years. For example:

(a) An Optum strategy document from 2020 states that '[✂]'.[617] [✂].[618] The document also indicates that Optum had a [✂], for example in relation [✂].[619]

(b) Optum conducted detailed [✂] analysis identifying differences in product features and functionality between its own products and FDB's. In 2020 it found [✂].[620] Optum identified key features to invest in to [✂].[621]

(c) An Optum business case document from 2021 discusses incorporating clinical rules into ScriptSwitch (including nationally available clinical rules and third party vendors clinical rules). The document notes that [✂].[622]

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[612] Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, paragraph 4.1.
[613] The Parties, 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 48.
[614] The Parties also stated that the Public Contract Regulation requires contracting authorities – such as NHS Digital – to prevent, identify, and remedy conflicts of interest and ensure equal treatment of all economic operators; The Parties, 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 49.
[615] The Parties, 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf, 22 February 2023, page 48, see also; Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, 18 September 2023, paragraphs 4.1-4.2, 4.4-4.5.
[616] The Parties, UH_EMIS_Supplementary submission on third party responses to the Provisional Findings_18 September 2023, 18 September 2023, paragraphs 4.4-4.5.
[617] UH, [✂] to UH_EMIS_Response to the CMA's s.109 dated 27 April 2023, question 14. [✂].
[618] UH, [✂] to UH_EMIS_Response to the CMA's s.109 dated 27 April 2023, question 14. [✂].
[619] UH, [✂] to UH_EMIS_Response to the CMA's s.109 dated 27 April 2023, question 14. [✂].
[620] UH, [✂] to UH_EMIS_Response to the CMA's s.109 dated 27 April 2023, question 14. [✂].
[621] UH, [✂] to UH_EMIS_Response to the CMA's s.109 dated 27 April 2023, question 14. [✂]
[622] Optum, internal document [✂].

(d) In an August 2023 strategy document Optum find that its [✂][623], [✂][624] and that there is a need to [✂].[625]

(e) A 2019 tender assessment concluded that [✂] were more [✂] than [✂].[626] Another tender review from 2023 similarly found [✂].[627]

Primary care EPR systems rivals' views

9.113 We asked EMIS's rivals about the type of information that they receive from MO software suppliers. Both suppliers told us that they receive technical information about MO suppliers' solutions, although views differed on the extent of the information shared and whether this should be considered CSI or not:

(a) According to TPP the information shared includes details about the working of both existing and future products, and constitutes some degree of CSI. TPP considers that the information about future MO software products or functionalities needs to be provided by MO software suppliers to TPP because TPP needs to develop the customised integration with the relevant MO software accordingly.[628]

(b) Cegedim told us that information shared between MO suppliers and EPR system providers is generally in the format of project pipelines and technical specifications of future developments such that new APIs can be provided. According to Cegedim, these flows are protected by NDAs and limited to product specifications which are not designed to give indications as to the ultimate value of the product developments in any case, and so it does not consider it receives any CSI.[629]

Our assessment

9.114 The evidence indicates that FDB currently shares a range of proprietary information with EMIS, including both commercial and technical information. However, we consider that, overall, the value of this information for Optum would be limited.

9.115 In relation to the commercial information FDB shares with EMIS, FDB's and the Parties' submissions differ on whether EMIS receives this in an

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[623] [✂].
[624] [✂].
[625] [✂].
[626] [✂].
[627] [✂].
[628] TPP, [✂].
[629] Cegedim, [✂].

aggregated form. However, we consider that most of this information is either public or easy to infer for Optum. In particular, we note that FDB's list prices are publicly available, and that feedback from tender processes may provide Optum with some insight into discounts offered by FDB (or *vice versa* – see paragraph 9.88 above). Moreover, we consider that, given the market structure, Optum already has a good understanding of FDB's customer base. We therefore consider that the commercial information that FDB shares with EMIS would not provide Optum with a significant competitive advantage.

9.116 As for the technical information that FDB shares with EMIS, we consider that the risk that this information would provide Optum with a competitive advantage is limited. In particular:

(a) We understand that some of the information shared between FDB and EMIS is limited to the integration of FDB's product with EMIS Web and would be of limited value to Optum. Some information appears to be backwards looking and related to fixing certain technical problems that have arisen.[630] For example, we consider that the information on fixes to technical issues with FDB's product will typically be specific to FDB's product and therefore not valuable to Optum. Other information shared appears to be high-level, such that it would not appear to provide sufficient detail to be of competitive use to Optum.[631] Moreover, due to differences between FDB's and Optum's products, it may be hard or inefficient in some cases to adapt Optum's product based on information specifically related to FDB's product or integration with EMIS.

(b) Optum's internal documents suggest that FDB's products are considered to be [✂] to Optum's. Optum, from being active in the market, already has substantial information about differences in features and functionalities between its own products and FDB's, and customer demands for these features. Optum is already able to monitor customer feedback on the effectiveness of its suggested switches and customer usage of its products.[632] Given the extent of the information that is already available to Optum that it can use to determine the appropriate focus for product enhancement and development, we consider that additional information of the nature that could be obtained from FDB as a result of the Merger is therefore unlikely to hold significant value for Optum.

(c) Optum's internal documents suggest that Optum has been [✂] the technological [✂] with FDB's products over several years, despite the

[630] FDB response to the Provisional Findings, 1 September 2023, Annex [✂].
[631] FDB response to the Provisional Findings, 1 September 2023, Annex [✂].
[632] Optum, call with the CMA (product demonstration), 9 May 2023.

substantial information Optum already has about the differences in features and functionalities between its own products and FDB's.

(d) Further, we understand that Optum is already investing in improving ScriptSwitch (and trying to win more customers) by developing and adding features [✂] those of [✂], such as using additional patient data to target switches and reduce popup fatigue.[633] These plans pre-date the Merger and appear to be evidence of competition between FDB and Optum, as opposed to relating to any intention to use FDB's CSI post-Merger. Despite reviewing a significant amount of the Parties' internal documents, including Optum internal documents relating to competition in the MO software market and UH documents relating to its post-Merger strategy, we did not find evidence to support this foreclosure mechanism. FDB was also unable to provide persuasive evidence to support its assertion that Optum intends to use FDB's CSI in order to [✂] functionality [✂] between the products.

(e) We also understand that there is a degree of discretion as to how much information MO software providers share with primary care EPR systems suppliers. We consider that FDB could, at least to some extent, reduce the scope and/or level of detail of the information it shares with EMIS after the Merger without a material impact on its competitiveness.

Our conclusion

9.117 For these reasons, overall, we conclude that the Merged Entity would not be able to harm the competitiveness of FDB under this mechanism. Given this conclusion, we have not taken a view on the effectiveness of the guardrails in place to prevent information sharing between EMIS and Optum post-Merger, nor have we considered the incentive of the Merged Entity to engage in this behaviour.

Conclusion on ability

9.118 We have concluded that the Merged Entity would have the ability to engage in partial foreclosure of FDB using any of foreclosure mechanisms one, two or three.

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[633] UH, 20230615 - Optum Consolidated Response -section 109 3.pdf, question 3.

Incentive

9.119 In this section we assess whether the Merged Entity would have an incentive to partially foreclose FDB in the MO software market.

9.120 If the Merged Entity were to partially foreclose FDB, the quality and/or price of FDB's MO offering may be negatively affected relative to Optum's MO software. As a result, some of FDB's MO customers (ICBs and Health Boards) may choose to switch to Optum, the only current alternative.[634] This would bring about additional profits to the Merged Entity.

9.121 To estimate the value of such additional profits, we have relied on a variety of quantitative (eg Optum's and FDB's historical switching data and Optum's profitability reports) and qualitative (eg Parties' and third parties' views on costs of switching in the MO software market) evidence. We discuss the potential ranges of the extra profits that Optum could make – if the Merged Entity partially foreclosed FDB – in the section '*Potential gains in MO*'.

9.122 At the same time, EMIS Web's integration with FDB may be degraded. As a result, some of EMIS's primary care EPR system customers (GP practices) who value the ability to use FDB's MO software may decide to switch to another supplier – TPP or Cegedim. This would lead to the Merged Entity losing some profits from lost sales of its primary care EPR system. In addition, as a result of GP practices switching to rivals' primary care EPR systems, EMIS may also lose revenues from adjacent sources which vary with the volume of patients covered by GPs using EMIS Web.

9.123 To estimate the value of such losses, we have relied on a variety of quantitative (eg EMIS's historical switching data and EMIS's profitability reports) and qualitative (eg Parties' and third parties' views on costs of switching in the primary care EPR systems market) evidence. We discuss the potential ranges of the losses in the section '*Potential losses in primary care EPR system*'.

9.124 In this assessment (henceforth the 'vertical arithmetic analysis') we consider whether the range of expected profits from extra switching to Optum's MO software are likely to outweigh the range of expected losses due to customers switching away from EMIS's primary care EPR system, such that the Merged

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[634] For completeness, we note that there are other suppliers in medicine optimisation, who rely on patients' data from primary care EPR systems and which aid GPs in issuing optimal prescriptions (see Chapter 6). As set out in Chapter 6, we do not consider these services to be in the same market for the supply of MO software as Optum or FDB. What is more, none of these services rely on customised integration with EMIS's primary care EPR system and, therefore, the Merged Entity could not engage in partial foreclosure against them. As such, we only consider the incentive of the Merged Entity to partially foreclose FDB.

Entity may have an incentive to foreclose FDB. In addition, we have also considered any wider costs or benefits to foreclosure which may impact the Merged Entity's incentive to partially foreclose FDB, such as (a) the Merged Entity's wider commercial strategies and considerations, and (b) whether the role of the NHS could deter the Merged Entity from deciding to engage in partial foreclosure. We rely on qualitative evidence from the Parties and third parties to assess these wider costs.

9.125 The vertical arithmetic analysis provides an estimation of the extent of gains/losses that the Merged Entity could make/incur if it were to partially foreclose FDB. It is based on a number of assumptions which are discussed (along with other technical details of the analysis) in Appendix C.

9.126 We have not relied on precise vertical arithmetic calculations when considering the incentive to foreclose. The output from these calculations is only as good as the underlying assumptions and data used. However, even in the absence of precise calculations, vertical arithmetic can be used to indicate the relative magnitude of what might be gained if a foreclosure strategy were to be pursued and this helps to highlight the scale of the incentive to engage in foreclosure.

Potential gains in MO software

9.127 If the Merged Entity were to partially foreclose FDB, this could increase the attractiveness of Optum's offering vis-à-vis FDB's MO software. This could materialise if the quality of FDB's MO software is degraded (foreclosure mechanism 1 and 2) or its cost base is increased (foreclosure mechanism 3). As a result, some ICBs could decide to switch from FDB to Optum which would increase Optum's profits.

9.128 In this section, we estimate the total profits Optum could gain from the Merged Entity's partial foreclosure of FDB using the following approach:

(a) First, we consider the current size of the MO market and the market shares of Optum and FDB. This allows us to estimate the revenue and patient base that is potentially open to Optum to capture from FDB if the Merged Entity were to partially foreclose FDB.

(b) Second, we consider the plausible range of switching rates from FDB to Optum as a result of the Merged Entity's partial foreclosure of FDB. These switching rates are then applied to the patient base identified in part (a) above, to estimate the diversion of customers from FDB to Optum.

(c) Third, we estimate the profit Optum would make from expanding its customer base by one patient (ie Optum's profit per patient). We multiply

Optum's profit per patient by the number of patients whose ICBs could switch from FDB to Optum, as calculated in part (b) above, to estimate the Merged Entity's total profit from partially foreclosing FDB.

Position of Optum in the market for MO software

9.129 In this section we consider the position of Optum in the MO software market with reference to its share of supply in the UK as well as England and Wales.

9.130 As set out in Chapter 6 there are currently two players active in the MO software market in the UK: Optum and FDB.

9.131 We have calculated revenue-based shares of supply for MO software based on the data provided by Optum and FDB on their own revenues from MO software (see Table 9.2 below). According to this data, FDB has been gaining share in the UK in recent years, from [50-60]% in 2018 to [60-70]% in 2022. Conversely, Optum's share has decreased from [40-50]% in 2018 to [30-40]% in 2022. At the same time, the total value of the market has grown by [10-20]%. Some of the growth is due to FDB's solution – which the Parties' estimate is approximately [✂]% more expensive than Optum's MO software – gaining market share from Optum.[635]

[635] Optum's consolidated response to s109 1, 15 June 2023, question 13.

Table 9.2: Shares of supply for MO Software (UK-Wide)

	2018		*2019*		*2020*	*2021*		*2022*		
	£	*%*	*£*	*%*	*£*	*£*	*%*	*£*	*%*	*£*
FDB	[✂]	[50-60]	[✂]	[60-70]	[✂]	[60-70]	[✂]	[60-70]	[✂]	[60-70]
Optum	[✂]	[40-50]	[✂]	[40-50]	[✂]	[30-40]	[✂]	[30-40]	[✂]	[30-40]
Total	[✂]	100	[✂]	100	[✂]	100	[✂]	100	[✂]	100

Source: CMA calculation from Optum s109 1 Q13, and data requested from FDB by the CMA. FDB's figures share includes its revenues from AnalyseRx. Optum did not have any revenues from Population 360 between [✂] in the UK.

9.132 We have also calculated revenue-based shares of supply for England (Table 9.3) and Wales (Table 9.4) based on Optum's and FDB's own figures for revenues from MO software.

9.133 In England FDB was the largest MO supplier by revenue in each year between 2018 and 2022. During this period, FDB's share of supply grew from [60-70]% to [70-80]% and its revenues increased from £[✂] to £[✂]. At the same time, Optum's share of supply shrank from roughly [✂] of the English MO software segment in 2018 to [✂] in 2022, reflecting Optum's decreasing revenues. Similar to the dynamic observed across the UK, the value of the English MO software segment increased from £[✂] in 2018 to £[✂], reflecting the growing share of FDB whose MO software is more expensive than Optum's.

Table 9.3: Shares of supply for MO Software (England only)

	2018		*2019*		*2020*	*2021*		*2022*		
	£	*%*	*£*	*%*	*£*	*£*	*%*	*£*	*%*	*£*
FDB	[✂]	[60-70]	[✂]	[60-70]	[✂]	[70-80]	[✂]	[70-80]	[✂]	[70-80]
Optum	[✂]	[30-40]	[✂]	[30-40]	[✂]	[30-40]	[✂]	[20-30]	[✂]	[20-30]
Total	[✂]	100	[✂]	100	[✂]	100	[✂]	100	[✂]	100

Source: CMA calculation from Optum s109 1 Q13, and data requested from FDB by the CMA. FDB's figures share includes its revenues from AnalyseRx. Optum did not have any revenues from Population 360 between [✂] in England.

9.134 In Wales Optum was the largest MO software supplier by revenue between 2018 and 2022, although its share of supply in this period declined from [90-100]% of the Welsh MO software segment in 2018 to approximately [70-80]% in 2022. After the decline in Optum's revenues in Wales between 2018 and 2019, they were fairly flat between 2019 and 2022. Conversely, FDB

grew its MO software business in Wales from £[✂] in 2018 to £[✂] in 2019 and retained a similar level of revenues in the following years. This led to FDB increasing its share of supply from [0-5]% in 2018 to approximately [20-30]% in 2019-2022.

Table 9.4: Shares of supply for MO Software (Wales only)

	2018		*2019*		*2020*		*2021*		*2022*	
	£	*%*	*£*	*%*	*£*	*£*	*%*	*£*	*%*	*£*
FDB	[✂]	[0-5]	[✂]	[20-30]	[✂]	[20-30]	[✂]	[20-30]	[✂]	[20-30]
Optum	[✂]	[90-100]	[✂]	[70-80]	[✂]	[70-80]	[✂]	[70-80]	[✂]	[70-80]
Total	[✂]	100	[✂]	100	[✂]	100	[✂]	100	[✂]	100

Source: CMA calculation from Optum s109 1 Q13, and data requested from FDB by the CMA. FDB and Optum did not have [✂] in Wales.

9.135 Based on the shares of supply set out above, FDB's total revenue from the supply of MO software in England and Wales in 2022 (ie the revenue which is potentially subject to foreclosure by the Merged Entity) amounted to £[✂].

9.136 According to FDB, this revenue was generated from ICBs/Health Boards covering c. [✂] patients.[636] Out of this population of patients, we consider that the total addressable pool of patients who might be targeted if the Merged Entity partially foreclosed FDB is c. [✂] patients (see Appendix C for a discussion on the total addressable pool of patients). This figure includes:

(a) All patients whose GPs currently use FDB's MO software and EMIS Web. These patients' GP practices would be directly affected by any partial foreclosure of FDB by the Merged Entity; and

(b) A proportion of patients whose GPs currently use FDB's MO software and TPP's/Cegedim's primary care EPR system (ie patients whose GP practices would not be directly affected by the foreclosure). We consider that some ICBs who exhibit a preference for single-homing their MO software services and where EMIS's share of supply is high may switch such GP practices from FDB to Optum.

9.137 To calculate the potential number of patients that Optum could gain as a result of the Merged Entity's partial foreclosure of FDB, we multiply [✂] – the total addressable pool of patients who might be affected by the partial foreclosure – by the rate of potential switching from FDB to Optum due to the partial foreclosure. We discuss this potential rate of switching in the next section.

9.138 Based on Optum's and FDB's responses, we understand that the MO software market is expected to grow over the next five years (see paragraph 4.8) because of the update of new products. The impact of this potential growth on our analysis is discussed further in Appendix C.

Switching in the market for MO software

9.139 In this section, we consider the evidence collected from the Parties and third parties about the costs of switching MO software suppliers. We also assess Optum's and FDB's data relating to historical customer switching. We use this evidence to determine the range of plausible switching rates that could occur as a result of the Merged Entity's partial foreclosure of FDB (see section 'Diversion' below).

Costs of switching

9.140 According to the Parties, switching the MO software supplier is easy and the associated costs are limited. The Parties consider that the MO software

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[636] [✂]

market is '*fluid and it is standard practice for customers to switch between suppliers as their needs and wants change*'.[637] Furthermore, the Parties consider that short contracts between ICBs and MO software suppliers (between one and three years in duration) facilitate switching.[638]

9.141 The Parties told us that the costs of switching the MO software supplier relate to the training of users (which typically takes around 30 minutes)[639] and licence fees. The Parties describe 'Licence fees' to include costs associated [✂]. [640]

9.142 According to FDB the switching process takes an average of eight weeks. FDB considers that ICBs would typically spend approximately 120 hours (across all of its GP practices) on deployment activities including solution activation, staff training, awareness and engagement sessions, communications, content requirements and project documentation and meetings.[641] FDB also told us that ICBs' costs of switching – relating to the activities set out above – are approximately £500 per practice for an average ICB consisting of 150 GP practices.[642]

9.143 According to responses we received from ICBs, the total costs required to migrate a GP practice to a new MO software supplier tend to be materially lower compared to the costs of migrating the practice to a new primary care EPR system. Switching MO software is also considered to be less complex than switching a primary care EPR system. This is because MO software is only related to a single aspect of GP consultations – prescribing medications – whereas primary care EPR systems are core to the functioning of a GP practice and can include other features such as making patient appointments or storing patients' records.[643]

9.144 Based on responses from four ICBs, the total financial costs of switching all GP practices in an area ranged from £7,930 (or £87 per GP practice) to £150,000 (£1,923 per GP practice).[644] One ICB stated that it expected there to be no direct financial cost but some 'staff costs'.[645] Responses from a

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[637] FMN, paragraph 15.9.
[638] FMN, paragraph 23.10.
[639] UH, CONFIDENTIAL Consolidated Response to CMA RFI 5 dated 7 July 2023.pdf, dated 7 July 2023, 21 July 2023, question 4.
[640] FMN, paragraph 15.9 and, paragraph 23.30. The description of costs falling into 'Licence fees' appears to us to be relatively broad and include [✂] and [✂].
[641] FDB considers that most of these activities would take place irrespective of whether an ICB is newly acquiring prescribing decision support or transitioning from an existing system. FDB, [✂].
[642] This estimate is based on the usual staff roles involved in performing those activities. Their rates are based on the information set out in NHS Agenda for Change for 2022-2023 uplifted by 25% to account for a mark-up for the MO software supplier. FDB response to RFI [✂].
[643] [✂].
[644] [✂].
[645] [✂].

number of ICBs suggested that the costs that they could incur (across all GP practices in the area) when switching their MO software supplier include project management (£10,000 to £13,000), staff training (£4,500 to £7,500)[646] and developing formularies and local guidance (£20,000).[647]

9.145 Based on customer responses, the total time to switch all GP practices in an area could take anywhere between 6 weeks to 6 months.[648] This could involve the time required to complete the procurement process (one to six months),[649] engagement with local GP practices (two to six weeks),[650] and developing formularies and local guidance (up to six months).[651]

9.146 According to the respondents, GP practices do not incur financial costs when switching the MO software supplier[652] and only require a short training session which costs up to £500 per clinician in total[653] and takes up to one day.[654]

9.147 In addition to the evidence on switching from our questionnaire, we also had a call with one ICB who told us that the largest costs involved in switching are attributable to the ICB deploying a team to each GP practice in its area to install the software and provide training to each clinician who prescribes. The ICB estimates it could take approximately six months and cost between £100,000 to £200,000 (or £556 to £1,111 per practice) to switch all GP practices in its area.

9.148 Overall, we consider that the evidence provided by Optum, FDB, and the ICBs is consistent and indicates that switching MO software supplier typically does not involve large costs, does not require a substantial amount of time to implement, and is not very complex.

Historical switching in the market for MO software

9.149 In this section we consider to what extent Optum's and FDB's data relating to switching is consistent with the evidence on low barriers to switching set out in the section above.

9.150 Optum's tender data appears to show that, consistent with the Parties' arguments, there is some openness to switching. Between January 2021 and

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646 [✂].
647 [✂].
648 [✂].
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653 [✂].
654 [✂].

February 2023, Optum participated in tenders organised by [✂] ICBs in England (there are in total 42 ICBs in England).

9.151 However, Optum's customers data – which contains information on the identity of customers and the year when they first became Optum's customers – indicates [✂].[655] This is consistent with Optum's revenue and share of supply data which indicate that Optum's [✂].

9.152 Finally, Optum has provided us with its switching data which allows us to calculate the historical rate of customer switching to and from Optum's MO software.[656] This data is based on the number of patients covered by ICBs using Optum's MO software.[657] For each year between 2018 and 2022 it includes the number of patients covered by Optum's customers at the beginning of each year and the number of patients covered by ICBs who moved from and to Optum's MO software over the course of each year.

9.153 Table 9.5 below summarises Optum's switching data and shows the rates of switching to and from Optum's MO software in each year between 2018 and 2020. According to this data, switching to Optum has been [✂] in recent years, with the switching rate below [0-5%] in four out of five years considered in the analysis. The rate of switching away from Optum has been [✂] than the rate of switching to Optum – with the rate exceeding [0-5%] in three out of five years we have considered – although it is still [✂], with the mean value across 2018-2022 at [5-10%].

[655] [✂].
[656] UH, Optum / EMIS phase 2 51213-2 - 20230615 - Optum Consolidated Response -section 109 3.pdf, dated 8 June, 12 June 2023, question 5.
[657] We used this data instead of customer-level data to calculate Optum's switching rates because in the recent years Clinical Commissioning Groups (CCGs), who historically had been responsible for MO software procurement, have been merging to create ICBs. As a result of these mergers Optum may have gained or lost customers even if the practices did not choose to switch to/from Optum.

Table 9.5: Optum's Switching Rates by Number of Patients 2018-2022

	2018	*2019*	*2020*	*2021*	*2022*
Patients covered by ICBs who procured MO from Optum at the beginning of the year	[✂]	[✂]	[✂]	[✂]	[✂]
Patients covered by ICBs who switched to Optum over the course of the year	[✂]	[✂]	[✂]	[✂]	[✂]
Patients won as a share of all patients (%)	[✂]	[✂]	[✂]	[✂]	[✂]
Patients covered by ICBs who switched from Optum over the course of the year	[✂]	[✂]	[✂]	[✂]	[✂]
Patients lost as a share of all patients (%)	[✂]	[✂]	[✂]	[✂]	[✂]

Source: Optum's response to s109 3, question 5. 20230615 – Optum Consolidated Response -section 109 3.pdf

9.154 We have also received equivalent switching data from FDB. As shown in Table 9.6 below, FDB's switching rates are consistent with the rates provided by Optum. The rate of switching away from FDB has been [✂] between 2018 and 2022, with the average of [0-5]% per year. The rate of switching to FDB is slightly [✂] – with the average of [5-10]% – although [✂].

Table 9.6: FDB's Switching Rates by Number of Patients 2018-2022

	2018	*2019*	*2020*	*2021*	*2022*
Patients covered by ICBs who procured MO from FDB at the beginning of the year	[✂]	[✂]	[✂]	[✂]	[✂]
Patients covered by ICBs who switched to FDB over the course of the year	[✂]	[✂]	[✂]	[✂]	[✂]
Patients won as a share of all patients (%)	[5-10]	[0-5]	[0-5]	[5-10]	[0-5]
Patients covered by ICBs who switched from FDB over the course of the year	[✂]	[✂]	[✂]	[✂]	[✂]
Patients lost as a share of all patients (%)	[0-5]	[0-5]	[0-5]	[0-5]	[0-5]

Source: FDB's response to RFI 1, question 4. 20230608 – FDB Consolidated Response.docx

9.155 Based on the data provided by Optum and FDB, we consider that the extent of ICBs switching their MO software supplier has historically been limited notwithstanding the low barriers that customers face when changing their supplier.

9.156 FDB submitted that it [✂].[658] However, we note that, between 1 September 2022 and 31 August 2023, the number of new customers (and corresponding patients) won by OptimiseRx was [✂] than the number of customers (and corresponding patients) OptimiseRx lost.[659]

Diversion from FDB to Optum

9.157 In this section we consider the plausible rates of switching from FDB to Optum that could take place if the Merged Entity were to partially foreclose FDB. We make this assessment with reference to the costs of switching and the extent of historical switching discussed in the sections above.

9.158 Based on the information provided by EMIS[660] and based on Optum's internal assessment of reasons for customers not choosing Optum's MO software,[661] we understand that between 2018 and 2022 some customers switched from Optum to FDB due to [✂]. On average, in each year between 2018 and 2022 approximately [0-5%] of Optum's customers considered the differences [✂] between Optum's and FDB's MO software to be significant enough to warrant changing the supplier [✂].[662]

9.159 If the Merged Entity were to partially foreclose FDB, the quality of FDB's MO software relative to Optum's MO software could decrease (based on foreclosure mechanisms 1 and 2) or its price relative to Optum's could increase (foreclosure mechanism 3), prompting some customers to switch from FDB to Optum.

9.160 In our vertical arithmetic analysis we estimate the value of the Merged Entity's total gain/loss from partially foreclosing FDB based on a range of plausible switching rates in the MO software market. We do this to reflect the uncertainty around the exact type(s) of foreclosure mechanisms that the Merged Entity might engage in with respect to FDB. It is likely that the larger the degradation in quality of FDB or the increase in its price as a result of the

[658] FDB, [✂].
[659] FDB, RFI [✂].
[660] Site visit, 24 May 2023.
[661] UH, Annex [✂] to 20230616 - Optum's consolidated response to s109 1.pdf, question 27. [✂].
[662] [✂].

potential foreclosure, the larger the pool of customers who might decide to switch from FDB to Optum.

9.161 In providing our illustrative estimates of the potential gains from the partial foreclosure, the lowest switching rate we have assumed is 5%.[663] This is [✂] than the average switching rate from Optum to FDB observed in 2018-2022 (which was [✂]%).

9.162 The highest rate we have assumed is 25%,[664] which would reflect a scenario where the degradation in quality and/or the increase in price of FDB as a result of the foreclosure is more extensive. FDB questioned why we did not consider a rate higher than 25%.[665] This rate reflects an approximately [✂]-fold increase in switching rate compared to the average rate of switching observed in 2018-2022. Given this increase on historic rates of switching and considering the switching costs discussed in the '*Costs of switching*' section above, we consider this to be a reasonable upper bound.

9.163 For completeness, we also consider scenarios in-between, estimating the financial gain/loss for switching rates of 10%, 15%, and 20%. We have also considered an extreme scenario where all FDB's customers switch to Optum (see paragraph 9.209 below).

Optum's current and future profitability

9.164 To estimate the total profit that Optum would gain from customers switching from FDB to Optum as a result of the Merged Entity's foreclosure of FDB, we have considered Optum's current and future profitability in the MO software market.

9.165 Specifically, we have relied on Optum's historical financial reporting data on revenues and costs associated with the supply of MO software to obtain Optum's variable profit margin to estimate the profit Optum would gain if it were to increase its patient base by one patient (referred to as Optum's profit per patient).

9.166 As discussed in detail in Appendix C, we have estimated that Optum's profit per patient from the supply of ScriptSwitch in 2022 was [✂] and the corresponding variable profit margin from the supply of MO software in 2022 was [✂]%. We have also estimated that Optum's profit per patient from the

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[663] This means that, as a result of the partial foreclosure of FDB, 5% of the total addressable pool of patients (see paragraph 9.135) would switch to Optum's MO software.
[664] That is, as a result of the partial foreclosure of FDB, 25% of the total addressable pool of patients (see paragraph 9.135) would switch to Optum's MO software.
[665] FDB, Response to the Provisional Findings, 1 September 2023, 1 September 2023, page 5.

supply of Population 360 would be [✂]. In Appendix C, we also consider whether Optum's profitability is likely to change in the next five years.

9.167 To estimate the profits that the Merged Entity could gain from foreclosure, we apply Optum's profit per patient to the number of patients who could switch away from FDB according to switching rates discussed in section '*Diversion from FDB to Optum',* which range between 5% and 25%. Based on this, we estimate that the additional profit Optum could make from customers switching from FDB to Optum as a result of the Merged Entity's partial foreclosure of FDB ranges between c.£ [✂] and c.£ [✂].[666]

Potential losses in primary care EPR system

9.168 If the Merged Entity were to partially foreclose FDB, this could reduce the attractiveness of EMIS Web among GP practices who value the integration with FDB. Some of them could decide to switch from EMIS Web to TPP or Cegedim, which would reduce EMIS's profits. In this section, we consider the potential extent of such switching and the corresponding potential loss to EMIS.

Diversion from EMIS to other primary care EPR system suppliers

9.169 In this section, we consider the plausible ranges of switching from EMIS to rival primary care EPR system suppliers, if the Merged Entity were to partially foreclose FDB. This switching would involve customers who value FDB's MO software more than EMIS's primary care EPR system and who may choose to retain FDB's MO software and switch their primary care EPR system supplier.

9.170 We base our assessment on the qualitative and quantitative evidence on the barriers to switching set out in Chapter 8. Qualitative evidence indicates that switching the primary care EPR system can be risky, complex, and time-consuming. As a result, some market participants told us that GP practices prefer not to switch their supplier unless it is necessary. This view is consistent with low switching rates observed in EMIS's data. On average, between 2018 and 2022, EMIS gained [0-5]% of its customer base in a given year and lost [0-5]%.

9.171 In our vertical arithmetic analysis we estimate the value of the Merged Entity's total gain/loss from partially foreclosing FDB based on a range of plausible switching rates in the primary care EPR system market.

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[666] See Appendix C for the assessment of total gains/losses from the partial foreclosure.

9.172 The Parties have argued that, in the event of Merged Entity's foreclosure of FDB, at least [0-5]% of EMIS's customers would switch to a rival.[667] The Parties have told us that between 2017 and 2022, on average [0-5]% of EMIS's customers (GP practices) have switched in a given year and that this average was [0-5]% excluding 'COVID years' (ie 2020-2022). Additionally, the Parties have submitted that using historical values of gross switching (ie summing the proportion of EMIS's customers who switched to and from EMIS in a given year) would be justifiable in the vertical arithmetic. The Parties have told us that on this basis, EMIS's average switching rate in 2017-2022 was [5-10]% and in 2017-2019 (excluding 'COVID years') was [5-10]%.

9.173 We disagree with the Parties' assessment that, in the event of Merged Entity's foreclosure of FDB, a 3% switching rate is the '*conservative minimum justifiable rate of EPR switching*'.[668]

(a) In their submission, the Parties have calculated switching rates based on the number of GPs, not the number of patients. Using the number of GPs instead of patients overstates the extent of switching, because EMIS may win or lose GP practices due to practice openings, closures, mergers, and split – ie due to reasons other than switching. Using the number of patients to calculate the switching rate, EMIS lost on average [✂] of customers a year in 2017-2022 (or [✂] in 2017-2020).[669]

(b) We do not consider that using EMIS's gross switching rates to inform the potential level of diversion in the event of Merged Entity's foreclosure of FDB would be justifiable. The historical rate of customers switching away from EMIS is more meaningful for this purpose because it indicates the historical willingness of EMIS's customers to switch to a rival – which is what we consider in the vertical arithmetic analysis.

9.174 FDB have argued that the vertical arithmetic should focus on a scenario where the gains of partial foreclosure in the MO software market are not offset by any loss of EPR system customers. FDB told us that it has never seen a change to an MO solution also resulting in a change to the EPR system provider.[670]

9.175 We consider it is correct to consider a plausible range of switching. In providing our illustrative estimates of the potential losses from foreclosure, the

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[667] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 5.26-5.27.
[668] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 5.34.
[669] EMIS, EMIS Consolidated Response - Section 109 Notice dated 27 April 2023.pdf, question 15.
[670] FDB, [✂].

lowest switching rate we have assumed is 0%. This would reflect a scenario, where, as a result of high barriers to switching and the higher relative importance of the primary care EPR system to MO software to GP practices, EMIS does not lose any customers as a result of the partial foreclosure.

9.176 The highest switching rate we have assumed is 4%. This would reflect a scenario, where, to some customers, the high quality integration with FDB is sufficiently important to justify the costs of switching the primary care EPR system. For completeness, we also consider switching rates in-between these values, namely 1%, 2%, and 3%.[671]

EMIS's current and future profitability

9.177 To calculate the total profit that EMIS would lose from the customers who switch away from EMIS's primary care EPR system as a result of the Merged Entity's partial foreclosure of FDB, we have considered EMIS's current and future profitability. We have used EMIS's historical financial reporting data on revenues and costs associated with the supply of EMIS Web to obtain EMIS's variable profit per patient (ie the profit EMIS would lose for each patient who switched away).

9.178 Based on EMIS's submissions, we consider that for each patient lost as a result of the Merged Entity's partial foreclosure of FDB, EMIS would lose [✂]:

(a) [✂] from EMIS's supply of primary care EPR systems;

(b) [✂] from EMIS's revenues from FDB (ie FDB's ongoing fee for the maintenance of the customised integration with EMIS Web); and

(c) [✂] from EMIS's revenues from other sources (non-MO partners from usage fees, elite partner fees and EXA access).

9.179 We explain in detail how we calculated EMIS's variable profit per patient in Appendix C (see Section '*Calculating EMIS's profit per patient*'). In Appendix C we also consider whether EMIS's profitability is likely to change in the next five years.

9.180 To estimate the total potential loss that the Merged Entity would suffer in relation to customers switching from EMIS to TPP or Cegedim, we multiply EMIS's profit per patient by the number of patients who could switch away from EMIS according to the switching rates discussed in 'Diversion from EMIS to other primary care EPR system ' which range from 0% to 4%. Based on

[671] We applied these switching rates to EMIS's entire customer base. We note that, in practice, it is likely that the EMIS customers that would switch would be among those that use FDB.

this, we estimate that the profit EMIS could lose, as a result of the Merged Entity foreclosure of FDB, ranges between £[✂] and c.£ [✂] million.[672]

Other costs or benefits of foreclosure

9.181 In this section, we consider any other costs or benefits to the Merged Entity from engaging in partial foreclosure, which in addition to the possible gains and losses described above, would form part of its incentive to engage in such behaviour. In particular, we assess whether the role of the NHS could deter the Merged Entity from deciding to engage in partial foreclosure (for example because action, or the threat of it, by the NHS would make partial foreclosure unattractive, including where the NHS might seek to take a broad approach to enforcement), as well as the extent of any reputational costs to the Merged Entity from partially foreclosing FDB.

9.182 In our review of the Parties' transaction rationale documents, we did not see any evidence of broader strategic benefits of partial foreclosure relating to the supply of MO software. We consider that the Merged Entity would not make any wider gains from partially foreclosing FDB, beyond the gains discussed in '*Potential gains in MO software*'.[673]

Intervention by NHS England

9.183 In the *'The role of the NHS'* section above, we discuss whether NHS England's frameworks and standards prevent the Merged Entity from having the ability to partially foreclose FDB, in particular through the application of the Commercial and Interoperability Standards.

9.184 We understand from the Parties[674] and NHS England[675] that NHS England also has a wider ability to ensure that suppliers' behaviour is aligned with its goals by:

(a) seeking to apply the provisions of the Commercial and Interoperability Standards actively and broadly; and

(b) affecting the environment in which suppliers operate to drive pro-competitive outcomes.

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[672] See Appendix C for the assessment of total gains/losses from the partial foreclosure.
[673] We included a forward-looking sensitivity in Appendix C (paragraphs 37 to 46) to account for the potential development of the MO software market and primary care EPR system markets in the next five years. The results of this analysis are discussed at 9.213.
[674] The Parties, Response to Issues Statement, 31 May 2023, paragraphs 3.5-3.6 and 3.35.
[675] [✂].

9.185 In this section, we consider to what extent NHS England could use these abilities to make partial foreclosure more costly, therefore weakening the incentive of the Merged Entity to engage in such partial foreclosure.

9.186 Because these actions are within NHS England's discretion, we consider this effect qualitatively in our vertical arithmetic analysis, without estimating how it could affect Merged Entity's potential gains or losses.

Parties' views

9.187 According to the Parties, NHS England can and does intervene to resolve issues regarding EMIS Web even if its concerns may not relate to a specific framework or standard.[676]

9.188 The Parties provided several examples illustrating this. As discussed in paragraphs 9.26 and 9.27, these include NHS England requesting that EMIS make its bespoke integration available within IM1, to continue offering a customised integration with one third party supplier longer than intended by EMIS, and to allow interoperability between EMIS's product and third party suppliers outside of frameworks. According to the Parties, these examples show that NHS England can pursue its goals and elicit desired behaviour from suppliers even if the area of intervention may not fall strictly within the boundaries of a framework or standard.[677] The Parties consider that NHS England could also adopt this approach if the Merged Entity were to partially foreclose FDB.

9.189 Furthermore, according to the Parties, NHS England can and has used its wider ability to influence market outcomes to achieve its pro-competitive goals.[678] For example, the Parties have told us that NHS England has intervened in the primary care EPR system market to improve its level of competition:

(a) As set out in Chapter 8, the Parties told us that NHS England has introduced a new framework – the TIF – to promote competition in the primary care EPR systems market by lowering barriers to entry.[679] Moreover, the Parties told us that NHS England is actively supporting new entry in the market by offering £30,000 - £35,000 to GP practices who are

[676] The Parties, Response to Issues Statement, 31 May 2023, paragraph 3.35.
[677] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraphs 3.9-3.10.
[678] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 3.9.
[679] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, page 56.

willing to be early adopters of the solutions offered by new suppliers.[680] The Parties consider that NHS England has been successful in its efforts to stimulate competition in the primary care EPR systems market. According to the Parties, one new entrant has already been procured[681] and two other entrants have demonstrated compliance with NHS England's requirements.[682]

(b) The Parties also told us that NHS England has intervened in the primary care EPR system market to improve interoperability between different software suppliers, thereby facilitating the sharing of patient data across GP practices using different primary care EPR systems.[683] The Parties told us that, according to the NHS, 99% of GP practices in England can share patient records as a result of NHS England's intervention.

NHS England's views

9.190 We have also gathered views from NHS England about (a) the extent to which it could apply the Commercial Standard with respect to the customised integrations between MO software suppliers and primary care EPR systems and (b) its ability to influence market outcomes.

9.191 NHS England considers that the Commercial Standard [✂].[684]

(a) [✂].[685] [✂]. Again, NHS England told us that the Access to Data and/or Market Responsibility Provisions could be engaged by such conduct.[686]

(b) [✂].[687] [✂].[688]

9.192 With respect to NHS England's ability to influence market outcomes, NHS England's views are broadly consistent with the Parties'. It told us that it has intervened in the primary care EPR systems market with a view to increasing its level of competition.

(a) NHS England told us that it designed the new framework – the TIF – to stimulate competition in the primary care EPR systems market by

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[680] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, page 29.
[681] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, page 37.
[682] The Parties, Response to the Medicines Optimisation Working Paper, 19 July 2023, page 47.
[683] The Parties, Response to the Medicines Optimisation Working Paper, 19 July 2023, page 32.
[684] [✂].
[685] [✂].
[686] NHS England's response to RFI [✂].
[687] [✂].
[688] [✂].

lowering barriers to entry (as described in paragraph 4.17).[689] In addition, NHS England intends to provide new entrants with support to facilitate the uptake of their solutions among GP practices.

(b) NHS England also told us that it has been attempting to lower the complexity, risk, and costs associated with GP practices switching their primary care EPR system supplier to increase the level of switching among GPs. To address this, NHS England is trialling a new migration system called GP-to-GP (as described in paragraph 8.32).[690]

Our conclusion

9.193 Based on the Parties' submissions, and evidence received from NHS England, it appears that NHS England has the motivation and ability to intervene in these markets more widely, as shown by past action it has taken. Furthermore, NHS England told us that it considers that it could apply its Commercial Standard and/or bring its influence to bear in relation to the customised integrations between FDB's MO software and EMIS Web [✂].

9.194 The Parties and NHS England appear to agree that NHS England can intervene in markets to promote pro-competitive outcomes (and has done so in the past with respect to the primary care EPR systems market). Whilst it is not clear whether NHS England's effort to stimulate competition in the primary care EPR systems market will be successful, it appears that NHS England has correctly identified market features that may be limiting competition in the market (such as high switching costs and small number of competitors, see Chapter 8 on EMIS's market power).

9.195 Based on the evidence received from the Parties and NHS England, we consider that the potential for NHS England to seek to intervene based on a broad application of its frameworks and standards – even where there may be reasonable grounds for disagreement about whether the supplier's (including the Merged Entity's) behaviour is captured – would reduce the Merged Entity's incentive to pursue a foreclosure strategy targeted at FDB. In particular, NHS England could achieve this:

(a) by seeking to apply the Commercial Standards broadly to the customised integrations between EMIS Web and FDB's MO software. If, following an investigation, NHS England were to conclude that the Parties' partial foreclosure of FDB amounted to a breach, NHS England could seek to impose some of the enforcement measures discussed in the section *'The*

[689] [✂].
[690] [✂].

role of the NHS' to elicit the desired behaviour from the Merged Entity. In addition, even in circumstances where NHS England would ultimately conclude that the Merged Entity's behaviour was not covered by the Commercial and/or Interoperability Standard, in our view the prospect of facing investigation by NHS England would be expected to reduce the Merged Entity's incentive to pursue a partial foreclosure strategy against FDB;

(b) through a pro-competitive intervention in the primary care EPR system or MO software market, such as making changes to existing frameworks governing the sale of these products (eg the TIF, G-Cloud) or facilitating entry of new rivals.

Wider reputational risks

Parties' views

9.196 The Parties told us that, in addition to EMIS's losses of profits from customers switching to rivals' primary care EPR systems, engaging in a partial foreclosure of FDB could put the Merged Entity's reputation, and relationship with the NHS, at risk.[691] The Parties consider this element to be important and list EMIS's reputation as part of Optum's rationale for the Merger.[692]

9.197 The Parties told us that reputational damage to the Merged Entity could result in it losing NHS contracts in the UK in fields other than primary care EPR systems and MO software, for example:[693]

(a) In relation to EMIS, the Parties told us that it generated approximately [✂] of revenue (and [✂] of variable profits)[694] from activities not related to the supply of primary care EPR systems. The Parties consider that this revenue could be put at risk if the NHS – EMIS's major customer – decided to no longer procure EMIS's services unrelated to primary care EPR systems due to EMIS's reputational damage.

(b) In relation to UH, it considers that its deal rationale with EMIS to be contingent on the Merged Entity being a trusted supplier to the NHS.[695] The Parties told us that they plan [✂]. As such, the Parties consider a

[691] The Parties, Response to Issues Statement, 31 May 2023, paragraph 4.32.
[692] The Parties, Response to Issues Statement, 31 May 2023, paragraph 2.2.
[693] The Parties, Response to Issues Statement, 31 May 2023, paragraph 4.32.
[694] The Parties, Optum / EMIS phase 2 51213-2 – UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, Table 3.
[695] Annex [✂] to Optum's response to S109 1, question 28 [✂] and Annex [✂] to Optum's response to the phase 1 S109 1 [✂].

good relationship with the NHS to be of importance for their future investment plans.[696]

9.198 Additionally, the Parties consider that establishing credibility with the NHS could help the Merged Entity expand [✂].[697] According to the Parties, UH has considered [✂]. The Parties told us that by engaging in foreclosure, the Merged Entity could lose credibility which may endanger [✂].[698] The Parties consider this could potentially lead to a loss of up to £[✂] in profits from the reduced probability of [✂] due to damaged reputation in the UK.

9.199 Furthermore, the Parties consider that reputational damage in the UK could damage UH's share price and its wider global business which in 2022 was worth £209 billion in revenues.[699] In particular, the Parties told us that some firms who are currently customers of Optum and rivals of UH in the US may, as a result of the Merged Entity's foreclosure of FDB, lose trust in Optum and stop doing business with it.[700] According to the Parties, firms who are UH's rivals generated £[✂] in operating profit across various Optum businesses in the US in 2022.[701]

9.200 The Parties told us that, given the potentially large impact of any reputational damage to the Merged Entity's existing business in the UK or elsewhere, even a low likelihood of such losses would discourage the Merged Entity from engaging in partial foreclosure of FDB as it would outweigh the 'commercially negligible hypothetical gains' from foreclosure.[702, 703]

9.201 The Parties also told us that reputation, including with the NHS, was critical to the success of Optum UK, EMIS and the broader UnitedHealth Group. They told us there is a link (as referred to in their internal documents) between reputation in the UK market and the success of future [✂].[704]

Our conclusion

9.202 We acknowledge that EMIS's and Optum's profits which the Parties consider to be at risk – if their reputation were to be harmed due to Merged Entity's

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[696] Site visit, 24 May 2023. Parties' transaction rationale documentation, UH, [✂].
[697] The Parties, Response to Issues Statement, 31 May 2023, paragraph 2.2. This is discussed in Optum's internal documents for the strategic rationale for the Merger with EMIS (eg [✂]; see also [✂] and [✂].
[698] The Parties, Response to the Issues Statement, dated 31 May 2023, 23 June 2023, paragraph 4.32. See also, [✂].
[699] The Parties, Optum / EMIS 51213 - 01 Optum UK_EMIS_Response to Issues Letter_22.02.23.pdf - Documents (sharepoint.com), dated 22 February 2023, p.55 and footnote 24. See also, [✂] UH_Response to s.109 notice dated 8 December 2022.pdf.
[700] The Parties, UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 5.41.
[701] The Parties, UH_EMIS__Response to MO Working Paper (19 July 2023).pdf, paragraph 5.41.
[702] The Parties, Response to the Issues Statement, 31 May 2023, paragraph 4.33.
[703] The Parties, Response to the Provisional Findings, 1 September 2023, paragraphs 4-4.2.
[704] The Parties, Response to the Provisional Findings, 1 September 2023, paragraph 4.2

partial foreclosure of FDB – could be material and significantly larger than any potential gains from the partial foreclosure (as set out in '*Potential gains in MO*' and '*Outcome of analysis*').

9.203 With respect to the plausibility of EMIS and Optum incurring these losses:

(a) We consider that it may be plausible that the EMIS business could incur some losses from losing existing or future contracts with NHS England as a result of the Merged Entity's partial foreclosure of FDB. NHS England is EMIS's main customer in primary care EPR systems market and in other markets, and its strong relationship with NHS stakeholders was noted as part of the Merger rationale.[705] In theory, it could choose to discipline EMIS – if the Merged Entity were to partially foreclose FDB – by not awarding it with future contracts in markets outside the supply of primary care EPR systems. However, there are other factors that NHS England would likely take into account when choosing suppliers in such markets, such as the availability and quality of alternatives to EMIS or costs of switching to a new supplier. It is not clear that NHS England's willingness to discipline the Merged Entity would outweigh other considerations and that the NHS would not award it future contracts.

(b) The Parties have not provided evidence that [✂] and US customers – when making their purchasing decisions – would have regard to Optum's reputation in the UK in a market (MO software) which is specific to the UK. As a result, we do not consider the Parties' arguments on wider reputational costs to be plausible.

Outcome of analysis

9.204 Table 9.7 below presents our estimates of Merged Entity's potential gains in the MO software market and its potential losses in the primary care EPR system market based, as discussed above, on a broad range of plausible switching rates (see Appendix C for the methodology followed).

Table 9.7: Merged Entity's financial gain/loss (in £) from partially foreclosing FDB

		Switching upstream (primary care EPR systems) away from EMIS				
		0%	*1%*	*2%*	*3%*	*4%*
Switching downstream (MO software) to Optum	*5%*	[✂]	[✂]	[✂]	[✂]	[✂]
	10%	[✂]	[✂]	[✂]	[✂]	[✂]
	15%	[✂]	[✂]	[✂]	[✂]	[✂]
	20%	[✂]	[✂]	[✂]	[✂]	[✂]
	25%	[✂]	[✂]	[✂]	[✂]	[✂]

Source: CMA's calculations.

[705] For example, in UH, UH Attachment E,1 0 [✂].

9.205 Based on our vertical arithmetic analysis, whether the Merged Entity would make gains or incur losses from partially foreclosing FDB depends on our assumptions about the rate of switching downstream and upstream due to the foreclosure. Lower switching downstream is associated with lower financial gain (or higher loss) of the Merged Entity from foreclosure, whereas lower switching upstream results in higher financial gain (or lower loss).

9.206 Whatever values of switching are used, our estimates suggest that any financial gains that the Merged Entity could make from foreclosure are likely to be modest. Even the highest assumed value of downstream switching and lowest assumed value of upstream switching only leads to estimated gains of c. [✂] of extra profit per year. The possible financial gains increase but continue to be low even when the growth of the MO software market is taken into account (see Appendix C). Moreover, we consider the estimated gains from foreclosure, presented in Table 9.7, could be overestimated. As explained in Appendix C, the assumptions we have used to calculate the profit EMIS could lose from engaging in foreclosure may be understated.[706]

9.207 In relation to FDB's concern on [✂] competition post-Merger (see paragraphs 9.88 and 9.95 above), we consider that the Merged Entity's potential financial gains from reducing Optum's price after the Merger are likely to be even lower than any potential gains from the other foreclosure mechanisms. This is because, while the other foreclosure mechanisms would increase FDB's costs or affect its quality, reducing Optum's price would sacrifice a proportion of the Merged Entity's revenues. Moreover, as explained at paragraph 9.95 above, we consider that the fee paid by Optum to EMIS is likely to overstate the amount by which Optum could be able to reduce its price post-Merger. We finally note that in ICB areas where TPP's or Cegedim's EPR systems are used Optum's incentive to reduce its price would be further limited, given it would still face a cost from integrating with those EPR systems.

9.208 As set out in the section '*Other costs of foreclosure'*, the position of the NHS in this market, including its ability to influence market outcomes (such as by updating frameworks and standards) as well as the possibility of it seeking to take a broad approach to interpreting and enforcing the existing frameworks and standards could further reduce any potential gains and reduce the incentive of the Merged Entity to engage in partial foreclosure. It is unclear whether the gains would be further limited due to reputational damage to the Merged Entity from partially foreclosing FDB.

[706] See Appendix C, section 'Calculating EMIS's profit per patient'.

9.209 We also considered the potential amounts that the Merged Entity could gain as a result of foreclosing FDB if all of FDB's customers who also use EMIS's primary care EPR system in England and Wales were to switch to Optum, and if no GP practice would switch to rivals' primary care EPR system. In this scenario, the Merged Entity could theoretically gain c.[✂] in profit per year.[707] Given the potential for NHS England to seek to intervene (see section '*Intervention by NHS England outside the strict boundaries of the Standards*'), we do not consider this extent of foreclosure to be plausible.[708]

Conclusion on incentive

9.210 Using a range of plausible switching rates and based on modelling sensitivities set out above and in Appendix C, our analysis indicates that any direct financial gain that the Merged Entity could achieve from partially foreclosing FDB would be very small – and that based on certain assumptions it could achieve a loss. Even under the strongest assumptions – that Optum will capture all of FDB's customers in England and Wales and that there would be no switching upstream – the financial gain from partially foreclosing FDB would amount to a figure in the low millions, which we consider to be relatively immaterial, particularly when we have not seen evidence to suggest a wider strategic gain to the Merged Entity of such behaviour.

9.211 We concluded above that the use, or threatened use, of enforcement measures by NHS England does not prevent the Merged Entity from having the ability to partially foreclose FDB. However, we consider that it is also a relevant factor when assessing whether the Merged Entity would have the incentive to pursue a partial foreclosure strategy. We consider that NHS England has the motivation and ability to intervene more widely, and is sufficiently likely to take an approach to enforcement consistent with a broader application of the relevant provisions of its standards. We consider these broader responses are capable of further reducing any limited profits that the Merged Entity could achieve from partially foreclosing FDB and,

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[707] CMA calculations based on FDB response to RFI 1, question 1. To calculate this upper limit, we multiply the current number of FDB's OptimiseRx patients in England and Wales who also use EMIS' EPR system ([✂]) by Optum's profit per patient for ScriptSwitch [✂] and sum this with the number of FDB's AnalyseRx patients in England ([✂]) multiplied by Optum's profit per patient for Population 360 [✂].

[708] We also estimated the potential amounts the Merged Entity could gain if we assumed that all FDB customers in England and Wales were to switch to Optum and no GP practice switched from EMIS to a rivals' primary care EPR system. In this scenario, the Merged Entity could theoretically gain c[✂]. We calculate this by multiplying the current number of FDB's OptimiseRx patients in England and Wales ([✂]) by Optum's profit per patient for ScriptSwitch [✂] and sum this with the number of FDB's AnalyseRx patients in England ([✂]) multiplied by Optum's profit per patient for Population 360 [✂]. We do not consider that this scenario is plausible given that it assumes no customer will multi-home (by procuring from both Optum and FDB) post-Merger and that Optum would gain customers from FDB who would not be affected by the foreclosure (eg FDB patients using rival EPR systems). As noted above, this extent of foreclosure is unlikely, given NHS England's motivation and ability to intervene outside of the remit of the Commercial Standards.

therefore, eliminate the Merged Entity's incentive to engage in the partial foreclosure.

(a) NHS England has intervened in the past in areas that appear to be outside of the boundaries of the Commercial and Interoperability Standards. Furthermore, although there appears to be disagreement among market participants about the application of the Commercial Standard in the context of EMIS's customised integration with FDB's MO software, [✂].

(b) NHS England has shown – within the context of the primary care EPR systems market it can identify market features that might be limiting competition and impose pro-competitive solutions. This action (or the threat of such action) could be expected to limit any incentive to foreclose.

9.212 We consider that it is unclear whether the potential harm to the Parties' reputation in the event of the Merged Entity's partial foreclosure of FDB would result in a plausible disincentive, although we have seen evidence that supports the view that EMIS's relationship with the NHS is important to UH.

9.213 Overall, we consider that: (i) any potential financial gains from partial foreclosure are likely to be relatively immaterial, and (ii) the NHS's response is capable of further reducing any incentive as any such modest gains would likely be further reduced. Moreover, we have seen no evidence of a wider strategic gain for the Merged Entity from engaging in a partial foreclosure strategy. We have therefore found that the Merged Entity would not have the incentive to partially foreclose FDB.

Effect

9.214 As we have found that the Merged Entity would not have the incentive to partially foreclose FDB, we have not considered the potential impact of partial foreclosure on overall competition.

Conclusion on partial foreclosure in the supply of MO software

9.215 As we have found that the Merged Entity would not have the incentive to partially foreclose FDB, we consider that the Merger is unlikely to result in an SLC as a result of partial foreclosure in the supply of MO software in the UK.

10. Competitive assessment: Partial foreclosure in the supply of PHM services

10.1 In this chapter, we set out our competitive assessment in relation to the partial foreclosure theory of harm in the market for PHM services in the UK. In our assessment we have considered whether, after the Merger, the Merged Entity will be able to use EMIS's position in the supply of primary care EPR systems to harm the competitiveness of Optum's rivals in the supply of PHM services.

10.2 Several third parties, including PHM services providers and customers, expressed concerns that the Merger could have a negative impact on competition, including by giving the Merged Entity preferential access to primary care data from EMIS's EPR system, restricting the supply of that data and/or raising the cost of accessing that data.[709] For example, one PHM services rival submitted: '[the] merger … could provide Optum a competitive advantage ... through easier access to primary care data and by having the ability to create barriers for competitors to access that data'.[710] However, other PHM services providers and customers were neutral about the impact of the Merger and/or identified potential benefits.[711] For example, one ICB submitted: '[the Merger] would bring together PHM methodologies with Primary Care System providers and should therefore enable cross learning meaning more proactive and preventative care'.[712]

10.3 NHS England submitted that it is not concerned about the Merger from a competition perspective regarding PHM.[713] This is because, despite having expressed comments on the current limitations of IM1, the cost and capability of EXA, and the current position of EMIS as a primary care EPR system supplier (see the sections on foreclosure mechanisms below), NHS England considered these risks were present absent the Merger and depend more on the successful implementation of the next generation of standards.[714] That said, NHS England did express a concern that the Merged Entity could create new products in the PHM space in ways that Optum's competitors could not, in a way to monopolise future markets in the PHM, including based on anticipatory care and performance management tools.[715] NHS England also

[709] [✂].
[710] [✂].
[711] [✂].
[712] [✂].
[713] [✂].
[714] [✂].
[715] [✂].

highlighted a potential risk that the Merged Entity could use EXA to 'shape the market itself'.[716]

10.4 As discussed in Chapter 7, in assessing this theory of harm, we have considered whether three cumulative conditions are satisfied:

(a) Would the merged entity have the ability to use its control of inputs to harm the competitiveness of its rivals?

(b) Would it have the incentive to actually do so, ie would it be profitable?

(c) Would the foreclosure of these rivals substantially lessen overall competition?

Ability

10.5 In line with the framework set out in the Merger Assessment Guidelines,[717] in order to assess whether the Merged Entity would have the ability to partially foreclose competing providers of PHM services, we have considered:

(a) whether EMIS has market power in the supply of primary care EPR systems;

(b) the importance of primary care data held by EMIS;

(c) the available routes to access primary care data held by EMIS; and

(d) what mechanisms might be available to the Merged Entity to partially foreclose PHM rivals.

EMIS's market power

10.6 We have assessed EMIS's market power in the supply of primary care EPR systems in Chapter 8. Based on this assessment, we have concluded that EMIS has market power in the primary care EPR systems market.

Importance of primary care data held by EMIS

10.7 In this section we consider the importance of primary care data held by EMIS as an input for PHM services providers.

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[716] [✂].
[717] MAGs, paragraph 7.14.

10.8 TPP submitted that, in addition to primary care EPR systems used by GPs, EMIS has products that are used in other healthcare settings, including community pharmacy, community care and hospice. TPP also submitted that some of the data from these healthcare settings is key for PHM.[718] Two PHM services providers also submitted that they use community care data (although we understand that they access this data from EMIS's customers, and not directly from EMIS), and their submissions suggest that they may use community pharmacy and hospice care data in the future.[719]

10.9 However, we note that: (i) EMIS's estimated market shares in each of community pharmacy, community care and hospice are significantly lower than EMIS's share in primary care EPR systems;[720] (ii) EMIS is not currently providing, and has not provided in at least the last three years, community pharmacy, community care and hospice care data to non-NHS PHM services providers;[721] (iii) some community pharmacy, community care and hospice care data is also recorded in primary care EPR systems, and community care data can be accessed through the national Community Services Data Set (**CSDS**)[722];[723] and (iv) Optum does not use [✂] and [✂] data to provide PHM services in the UK, and it sources [✂] from [✂].[724]

10.10 For these reasons, we have focused our analysis on the importance of primary care data held by EMIS (on its EPR systems used by GPs), and not on community pharmacy, community care and hospice care data.

Parties' submissions

10.11 The Parties acknowledged that primary care data is a rich data source and, for PHM activity where integrated data is required, access to primary care data across a given ICS footprint is important. However, the Parties also submitted that primary care data is not used consistently across the wider PHM space or with respect to all PHM services,[725] and provided two examples of PHM work for which primary care data was not utilised.[726] The

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[718] TPP, Response to the Provisional Findings, 1 September 2023.
[719] [✂].
[720] EMIS, 20230905 FINAL – RFI 10 EMIS, 7 September 2023, question 2, Table 1.
[721] EMIS, 20230905 FINAL – RFI 10 EMIS, 7 September 2023, question 4, paragraph 4.1.
[722] See Community Services Data Set (CSDS) - NHS Digital.
[723] EMIS, 20230905 FINAL – RFI 10 EMIS, 7 September 2023, question 3, paragraphs 3.2-3.9.
[724] UH, UH_EMIS_Response to CMA's RFI dated 5 September 2023, questions 1-2, paragraphs 1.1 and 2.1.
[725] UH, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 6.
[726] These were: (i) [✂]; and (ii) the Population and Person Insight dashboard created by Outcomes Based Healthcare and the AGEM CSU, which uses secondary care, emergency care, community care services and specialised services data – see The Parties, Response to Issues Statement – Anticipated Acquisition by UnitedHealth Group Incorporated of Emis Group PLC (31 May 2023).pdf, paragraphs 5.18(i) and 5.18(ii); The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, 19

Parties also submitted that they do not anticipate the importance of primary care data will increase or change going forward.[727]

Our analysis

10.12 All PHM services providers that responded to the CMA's phase 2 questionnaire[728] submitted that access to primary care data held on EMIS's EPR system was either very important or important to them as PHM services providers.[729] The responses indicate that primary care data is the most important and complete source of health information for PHM services providers. For example:

(a) One provider submitted: 'Patient level primary care data is critical to the viability of our PHM business and products ... Our PHM solutions cannot deliver benefit to the NHS without this data and would cease to be commercially viable'.[730]

(b) Another provider submitted: 'Primary care data from the EPR is the primary component of our PHM data analytics platform. There is no alternative source of this data. Without suitable access to this data, we would be unable to deliver our services to our customer base'.[731]

(c) Another provider submitted: 'data held by primary care providers is currently the best and most complete source for patients' pre-existing conditions and current health needs ... If access to data held within EMIS' system was not available, the ability to deliver PHM services effectively would be limited'.[732]

10.13 All[733] the responses of PHM services providers indicated that there are no alternatives to the data held on EMIS's primary care EPR system, and that having access just to data held on other primary care EPR systems would not be sufficient. For example:

July 2023, pages 6-7. In relation to the second example, [✂]. Market Participant A also submitted that the Parties' submissions greatly understated the importance of primary care data for PHM – see Market Participant A response to the Provisional Findings, 31 August 2023, page 1.
[727] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, 19 July 2023, pages 8-9.
[728] We contacted 31 PHM service providers and received 15 responses, including nine that completed our questionnaire. Please note some respondents did not answer every question. After our provisional findings, we also engaged with a further PHM service provider, who also submitted that primary care data held by EMIS is very important to it.
[729] [✂].
[730] [✂].
[731] [✂].
[732] [✂].
[733] One response did not clearly answer this question, and instead discussed alternative routes of accessing the data rather than alternatives to the data itself.

(a) One provider submitted: 'There are no valid alternatives to the data held on EMIS' EPR system ... Each customers data [sic] is only available from their chosen EPR system'.[734]

(b) Another provider submitted: 'you need data from the whole population or the specific part of the population [you] are working on. It would [not] work just to have data from another supplier's systems'.[735]

10.14 We also note that the GP practices in a local area (such as those covered by an ICB) could use more than one primary care EPR system across the network of practices. In order to get full coverage of primary care data in a local area, PHM services providers need access to the data from all primary care systems used in that area. EMIS's primary care EPR system is the platform most widely used by GPs in the UK with an estimated share of supply of [50-60]%, and with an even higher share in England (see Chapter 8). We therefore expect most PHM projects requiring local data to require access to data held on EMIS's primary care EPR system.

10.15 Based on the PHM services providers' responses, we also expect the importance of access to primary care data to continue within the next five years. For example:

(a) One provider submitted: 'We do not expect the reliance on primary care data for the purposes of a PHM programme to diminish. The data held on patients by GPs is critical to the success of a PHM programme. It is the richest source of data to determine the health needs of a population'.[736]

(b) Another provider submitted: 'We expect the importance to increase as we deliver not just regional and national PHM solutions but Patient Level insights, derived from the data that become embedded in direct care patient flows. We do not foresee any circumstance where the depth and breadth of the data will become less important to the service we can provide to the NHS'.[737]

10.16 We also consider that primary care data has often been an important input to Optum's PHM services to date. While, since 1 January 2019, the PHM services bought from Optum required the use of primary care data and/or interaction with a primary care EPR system in [✂] instances,[738] we estimate that these [✂] instances accounted for more than [✂] of Optum's revenues

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[734] [✂].
[735] [✂].
[736] [✂].
[737] [✂].
[738] UH, UH_EMIS_Response to the CMA's s.109 dated 27 April 2023_Annex 1.xlsx, dated, Annex 1.

from the supply of PHM services.[739] Optum confirmed that its PHM offering involves linking data from various sources, often including primary care data.[740]

10.17 We also expect that primary care data will continue to be an important input into Optum's PHM activities going forward. In particular, we understand that [✂] PHM products/services currently offered by Optum, [✂], rely on primary care data.[741] [✂] pipeline PHM product, PCDM, [✂].[742]

10.18 Based on this evidence, we consider that primary care data held by EMIS is an important input for PHM services providers.

Routes to access primary care data held by EMIS

10.19 In this section we consider the routes available to PHM services providers to access primary care data held by EMIS, and whether they are currently used.

Parties' submissions

10.20 The Parties submitted that primary care data can be extracted from EPR systems, such as EMIS Web, using an NHS mandated IM1 interface,[743] and that 'an IM1 Bulk extraction is wholly sufficient for PHM activity'.[744,745] The Parties further submitted that:[746]

(a) IM1 Bulk was designed specifically for the purposes of research and analytics and related activities (including PHM services);

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[739] CMA analysis of the data provided by UH, UH_EMIS_Response to the CMA's s.109 dated 27 April 2023_Annex 1.xlsx, Annex 1.
[740] UH, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, 19 July 2023, page 9.
[741] UH, UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 – 17 May (Tranche 3).pdf, dated 27 April 2023, 17 May 2023, paragraphs 37.1-37.4; FMN, 17 January 2023, paragraph 12.10. We note that Optum's third PHM product/service, PHM Advisory Services, is a wrap-around support service for ICSs who may have existing local PHM tools, which we consider may in turn rely on primary care data.
[742] UH, UH_EMIS_Response to CMA's s.109 Request dated 27 April 2023 – 17 May (Tranche 3).pdf, 17 May 2023, paragraphs 37.1-37.4; FMN, paragraph 12.10.
[743] The Parties, Response to Issues Statement - Anticipated Acquisition by UnitedHealth Group Incorporated of Emis Group PLC (31 May 2023).pdf , 31 May 2023, paragraph 5.14.
[744] The Parties, response to the Issues Statement, 31 May 2023, paragraph 5.25; UH, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 9.
[745] The IM1 Bulk API provides weekly or monthly extracts of bulk data feeds of patient or clinical system user data – see Interface Mechanism 1 API standards – NHS Digital.
[746] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, pages 9-10.

(b) IM1 Bulk is a means of extracting structured data from EMIS Web, and access to unstructured data is not required for PHM services;[747]

(c) IM1 Bulk is refreshed at least every 24 hours, and real time data is not required for PHM services;

(d) PHM services providers can and do use IM1 Bulk for PHM purposes; and

(e) In the event that IM1 Bulk ceased to be sufficient, NHS England would change its scope by amending the IM1 Standard.

10.21 In relation to the IM1 interfaces, the Parties also submitted that these encompass both: (i) 'Extraction Interfaces', in particular IM1 Bulk; and (ii) 'Interoperability Interfaces', including IM1 Transaction, IM1 Patient and IM1 Partner. The Parties consider that only the former are relevant to PHM activities.[748]

10.22 The Parties also submitted that Optum accesses the relevant data held on EMIS Web through a third party or an NHS data processor (usually a CSU).[749]

10.23 The Parties further submitted that, while there are currently no plans to include national primary care data on the FDP in the short term,[750] the FDP will provide a core and additional route to access primary care data.[751] This is because Optum expects that primary care data will flow through the FDP because:[752]

(a) PHM is one of the FDP's use cases;

(b) The FDP is being designed to ingest primary care data;

(c) [✂]; and

(d) [✂].

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[747] The Parties explained that structured data includes data recorded into EPR systems using codification, while unstructured data is free text data entered into the patient record in the form of a narrative – see UH, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, , page 20.
[748] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 12.
[749] The Parties, response to the Issues Statement, 31 May 2023, paragraph 5.16.
[750] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 10.
[751] The Parties, response to the Issues Statement, 31 May 2023, paragraphs 5.28-5.31.
[752] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, pages 10-11.

Our analysis

10.24 There are various ways to access primary care data held on EMIS's EPR system, including:[753]

(a) Directly from the EMIS EPR system via the IM1 interfaces: PHM services providers may access data held on EMIS Web using an NHS mandated IM1 API. EMIS is required to offer interoperability with approved third party suppliers via IM1 as a result of the NHS frameworks. EMIS is compensated for operating these interfaces via the NHS based on a fee calculated according to the number of connections the EPR system has, and access to the data is free to the PHM services supplier.[754]

(b) Directly from the EMIS EPR system via custom integrations: data held by EMIS can also be accessed through customised APIs. These connections are agreed and developed between EMIS and the third party and this type of supplier activity may not be subject to the same oversight or standards set by the NHS.[755] Prices (and other terms) are agreed through commercial negotiations between EMIS and the third party.

(c) Directly from EMIS via its EXA platform: As well as charging a fee for operating an interface, EMIS can charge a fee for certain value-adding services, such as analysis of NHS data, which it makes available through EXA. EMIS charges a fee for users of EXA to explore and extract data from the platform.[756] As discussed below, a number of third parties have been moving from using custom integrations to using EXA.

(d) Indirectly via CSUs (or other third parties):[757] CSUs can provide extractions of data for PHM services providers, which we understand is free for PHM suppliers as the CSUs act under instruction to provide this data from the relevant NHS customer.[758] However, the CSUs must themselves first extract the primary care data from EMIS's EPR system. We understand this can be done by the CSU directly from users of the primary care EPR systems, through mandated APIs with EMIS, or via

[753] We understand that there may be other routes to access primary care data held by EMIS, for example through GP Connect (an NHS-led solution), or through third parties such as ICBs or GP federations.
[754] FMN, paragraph 20.18, Table 11.
[755] Note of call with NHS England, [✂].
[756] UH, CONFIDENTIAL Consolidated Response to CMA RFI 5 dated 7 July 2023.pdf, dated7 July 2023, 21 July 2023, paragraph 6.3; FMN, footnote 199.
[757] For example, one PHM services provider told us it uses Apollo, a specialist healthcare data extraction and management company, to access primary care data held by EMIS – see Call with [✂].
[758] FMN, footnote 56.

EMIS's EXA platform (in England).[759] CSUs are also PHM services providers themselves.

10.25 Some PHM services providers use only one of the methods above to access primary care data.[760] However, several PHM services providers use multiple routes.[761] We consider that different routes may be more appropriate depending on the specific PHM service provided. For example, one provider submitted that it uses IM1 to obtain data for its PHM platform, while it accesses primary care data from CSUs to help monitor activity in primary care.[762] Cost can be another factor that determines the route chosen by PHM services providers to access primary care data. For example, one provider submitted that, while customised APIs and EXA would be valid alternatives to the route it currently uses, their price is prohibitive.[763]

10.26 We note that several PHM services providers, including Optum (see paragraph 10.22 above), access data held on EMIS's primary care EPR system data via CSUs.[764] The Parties submitted that CSUs have the capacity to more cost efficiently link primary care data with data from other sources (eg secondary care data) and pseudonymise this data, and that Optum does not pay CSUs for access to this data as access is mandated by the NHS as data controller.[765] In turn, CSUs access data held on EMIS's primary care EPR system via EMIS's EXA platform.[766] Feedback from third parties indicates that sometimes CSUs do not pay for data extracts through EXA directly, with their ICB customers instead paying for this cost.[767]

10.27 We also note that at least two PHM services providers, [✂], use mandated IM1 interfaces to access primary care data held by EMIS.[768] EMIS also submitted that IM1 is used to access primary care data held by EMIS for the Discovery East London programme, an NHS programme aimed, among other things, at expanding the existing primary care informatics driven population health programme in east London.[769] One PHM services provider submitted

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[759] [✂].
[760] Among the providers that responded to the CMA's phase 2 questionnaire: [✂].
[761] Among the providers that responded to the CMA's phase 2 questionnaire: [✂].
[762] [✂].
[763] [✂].
[764] [✂].
[765] The Parties, response to the Issues Statement, 31 May 2023, paragraph 5.16.
[766] The Parties, response to the Issues Statement, 31 May 2023, footnote 64; EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, 11 May 2023, question 8.
[767] [✂].
[768] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, dated 27 April 2023, 11 May 2023, question 8.
[769] EMIS, EMIS - Second Response to EMIS Section 109 Notice dated 27 April 2023 - 11 May 2023.pdf, dated 27 April 2023, 11 May 2023, question 8; see also Discovery - Clinical Effectiveness Group (qmul.ac.uk); see also Discovery East LondonLatest Discovery East London news (discoverydataservice.org).

that it may start using IM1 interfaces to access primary care data held by EMIS in the future.[770]

10.28 We have found limited evidence indicating that custom integrations are currently used by PHM services providers. [✂] told us that it believes it is currently the only PHM services provider with an integrated button in EMIS Web that links its PHM services (including a predictive patient risk score) to the view of EMIS Web seen by doctors when consulting.[771] In relation to this integrated button, EMIS noted that [✂] product that can be launched through EMIS Web is [✂] shared care record product), and that while [✂] may have some PHM capability, the integrated button is designed to allow GP practices to access shared care records being used in their ICB, rather than for PHM purposes.[772] EMIS also noted that the interface through which this interaction occurs is not unique as it is an EMIS developed interface, [✂], which is compliant with the NHS's Open API Policy.[773] We have found no evidence of other PHM services providers currently accessing primary care data held by EMIS through custom integrations.[774]

10.29 As well as access to (or a bulk extract of) primary care data held by EMIS, the example described above suggests that PHM services providers may require closer integration with EMIS's primary care EPR system, particularly for PHM products that may be developed in the future. As this would be expected to take place based on custom integration, this is discussed further below when considering the potential foreclosure mechanism around custom integration.

10.30 In relation to the FDP (see paragraph 10.23 above), NHS England told us that it has currently no plan to include primary care data on this platform.[775] We understand based on Optum's feedback that [✂] (see paragraph 10.23 above). However, we consider that it is not clear whether, to what extent, and when the FDP may become a route to access primary care data for PHM services providers given the FDP contract has not been awarded and the platform has not been developed yet (see Chapter 4).

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[770] [✂].
[771] Call with [✂].
[772] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, dated 6 July 2023, 19 July 2023, page 29.
[773] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, dated 6 July 2023, 19 July 2023, page 29.
[774] One PHM services provider submitted that it uses a legacy interface, but it uses it for its shared care record solution – see [✂].
[775] Note of call with NHS England, [✂].

Foreclosure mechanisms

10.31 We have focussed our investigation on the following three foreclosure mechanisms, which reflect the third party concerns summarised in paragraphs 10.2-10.3 above:

(a) worsening NHS mandated interfaces (IM1) with EMIS's primary care EPR system;

(b) worsening custom integrations (or increasing their cost) with EMIS's primary care EPR system; and

(c) raising costs through EXA.

10.32 We also considered whether, after the Merger, EMIS would be able to share with Optum any CSI it obtains from rivals to Optum's PHM services. This could potentially allow the Merged Entity to compete less aggressively and may also deter rival PHM services providers from innovating.

10.33 While a small number of PHM services providers submitted that they share CSI with EMIS, which may include information about their product and data specification requirements, most of the PHM services providers that responded to the CMA said they did not share any CSI with EMIS.[776,777] Moreover, the evidence indicates the information that is shared with EMIS by PHM services providers is relatively limited in scope, as it does not include detailed financial information (eg related to tenders and bids), future product plans or development roadmaps.[778]

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[776] In phase 1, the CMA asked PHM services providers whether they share any CSI with EMIS. Out of 11 respondents, only one submitted it shares CSI. This provider submitted that it shares with EMIS population coverage (which assists EMIS in developing a price per head model), and the data extract specifications it requires – see [✂]. Another respondent submitted that, since it uses IM1, it has to share 'sensitive product technical and other information' with primary care EPR system providers, which provides primary care EPR systems with a 'competitive market advantage' and a 'disincentive to compete' – see [✂]. However, we understand that this provider does not use IM1 for its PHM solution, but for another type of product – see IM1 live suppliers: IM1 Pairing integration - NHS Digital.

[777] In phase 2, out of nine respondents, only one PHM services provider expressed concerns about CSI. This provider submitted: '[We have] a particular risk due to the collaborative design of data extracts from EXA to support our business and our customers. It would be possible for the merged company to derive the value and insights that we deliver from the EXA data and to aim to replicate that and create short-term commercial advantage through control of the data assets. We have no evidence to suspect that this is their intent, merely that it would be possible' – see [✂]. This provider also told us that IP rights or contractual restrictions may not be sufficient to prevent this information being used by Optum should the Merged Entity wish so – see [✂].

[778] A further third party told us that it is commonplace for new entrants or providers accessing data held by EMIS to provide EMIS with specifications of their own products, as well as the project scopes outlining why they need access. This third party also told us that there is a set of more sensitive technical information about APIs and how to connect them that would normally be shared under a non-disclosure agreement with primary care EPR system providers. This third party also told us that the sharing of such information is standard practice when working on projects for NHS England. This third party further told us that future development roadmaps and similarly sensitive information are not normally shared – see [✂].

10.34 For these reasons, we concluded that this further potential mechanism would not enable the Merged Entity to compete less aggressively or deter rival PHM services providers from innovating.

Worsening NHS mandated interfaces

10.35 Under this potential mechanism of foreclosure, we have considered whether the Merged Entity would have the ability to worsen PHM services providers' access to data where the NHS's mandated interfaces (IM1) are used.

10.36 As set out in paragraph 10.27 above, at least two PHM services providers currently use mandated NHS (IM1) interfaces to access primary care data held by EMIS. Another provider, [✂], started the process to integrate with EMIS via IM1, but then discontinued it and elected to use EXA.[779]

Parties' submissions

10.37 The Parties submitted that the Merged Entity would not have the ability to worsen access to data via IM1.[780] The Parties further submitted that:[781]

(a) EMIS must comply with the IM1 Standard and related service level requirements;

(b) EMIS is only a data processor in respect of NHS primary care data, and has no role in determining the 'quality' of the data;

(c) EMIS is required by the NHS to provide interoperability and data access to competitors; and

(d) The NHS closely monitors EMIS's conduct and as such the Merged Entity would not have the ability to degrade or obstruct access to IM1 interfaces.

Our analysis

10.38 We asked PHM services providers whether, after the Merger, EMIS would be able, technically and in practice, to delay data access, lower data quality, and/or limit the range of data being provided for PHM services that require bulk extracts through IM1. Several PHM services providers submitted that EMIS would be technically able to do so.[782]

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[779] UH, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, Table 1 and footnote 3.
[780] UH, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 4.8.
[781] UH, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, pages 35-37.
[782] [✂]

10.39 However, several PHM services providers also submitted that, were EMIS to engage in this strategy, they would report the behaviour to the NHS.[783] NHS England told us that it investigates all complaints involving primary care system suppliers to consider whether a breach of its standards has occurred (see Chapter 9), and we consider that IM1 would fall within the scope of NHS England's standards.[784]

10.40 Feedback from NHS England suggests one potential degradation could be around the timeliness of building point-to-point connections between the data processor and those who require access to the data.[785] However, NHS England submitted it can manage any attempts at delay through formal remediation processes.[786,787]

10.41 [✂].[788]

10.42 We also note that under the NHS's Interoperability Standard, which covers IM1, specific requirements apply to suppliers of primary care EPR systems, including a requirement that suppliers 'must not offer differential service, eg all API functionality and behaviour will be equally available to all API consumers, including the API provider's own apps'.[789]

10.43 Moreover, we received mixed feedback from PHM services providers on whether they consider that the Merged Entity would engage in this behaviour in practice. In particular, two providers suggested that EMIS would not engage in this behaviour:

(a) One provider submitted: 'whether this behaviour would take place in practice is debatable. [NHS England] are driving all solution providers to work in an open and transparent manner, to enable data to flow and to ensure that data can be used to manage the health of populations. Should EMIS engage in this behaviour, they would suffer reputationally and would likely face pressure from [NHS England] … It is unlikely that EMIS will

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[783] [✂]
[784] NHS England also submitted that in terms of the distribution of data, eg bulk data flows, its standards give it sufficient tools to regulate the market. It also submitted that its standards are rigorous and provide robust protections and it has recently been successful in enforcing third party compliance through a formal remediation process. [✂].
[785] [✂]; one third party told us that it thought it was likely to take it beyond the end of 2023 for it to have an IM1 connection with EMIS – see [✂].
[786] [✂].
[787] EMIS submitted that, while dependant on the particular circumstances, the process of a third party integrating with EMIS's EPR system through IM1 can reasonably take around three months based on the NHS's timing requirements for particular steps, and if the third party is focussed on completing the process within that sort of timescale – see UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, paragraph 1.2.2.
[788] [✂].
[789] See Interoperability Standard, ISNFR07.

engage in such behaviour following a merger ... This would be viewed even more dimly at an ICS level'.[790]

(b) Another provider submitted: '[the Merged Entity] would make themselves the data controller if [they engaged in this behaviour] … Optum are trying to establish credibility in the UK to support the NHS. This would be counter-intuitive to that'.[791]

Our conclusion

10.44 Based on the evidence set out above, we consider that the Merged Entity would be technically able to worsen PHM services providers' access to data held by EMIS where the NHS's mandated interfaces (IM1) are used, at least to some extent. However, were the Merged Entity to do so, PHM services providers would be likely to report this to NHS England or other bodies, and NHS England told us that it would investigate all complaints to enforce its standards. Moreover, PHM services providers had mixed views on whether the Merged Entity would engage in this behaviour in practice.

10.45 Overall, for these reasons, we consider that it is not plausible that the Merged Entity could partially foreclose PHM services rivals through this mechanism.

Worsening custom integrations

10.46 Under this potential mechanism, we have considered whether the Merged Entity would have the ability to worsen PHM services providers' access to data by degrading customised integrations with EMIS's primary care EPR system.

Parties' submissions

10.47 The Parties submitted that the Merged Entity will not have the ability to worsen access to data via custom interfaces post-Merger or in the future.[792] In particular, the Parties submitted that:[793]

(a) While legacy custom routes have been used in the past, these legacy interfaces have been phased out and data is not currently extracted for PHM purposes from the EMIS EPR system using custom interfaces;

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[790] [✂].
[791] [✂].
[792] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 4.12.
[793] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraphs 4.13-4.15.

(b) There is no expectation that custom interfaces will increase in use in the future, and the NHS Long Term Plan indicates that the future of interoperability is to meet 'mandated standards and technical requirements'; and

(c) In the event that a custom interface were developed for the purposes of delivering PHM services, it would need to be open and interoperable in accordance with the NHS Open API Policy.

10.48 The Parties also submitted that the NHS would have the power to bring the customised integrations within the IM1 interfaces.[794]

Our analysis

10.49 As set out in paragraph 10.28 above, we have found limited evidence indicating that custom integrations are currently used by PHM services providers to access data held by EMIS.

10.50 We asked PHM services providers whether they expect that there will be more customised integration between PHM service providers and primary care EPR systems within five years. We received mixed feedback. Whilst some suggested that the evolution of PHM, NHS data and technology,[795] and an increased focus on PHM solutions combining socio-economic and health including primary care data[796] make it likely that customised integration will increase over the next five years, others did not expect an increase in the use of customised integrations. For example, one provider submitted that it does not expect materially more customised integration within the next five years[797] and another provider submitted that its expectation would be that NHS England would use 'its indirect influence on providers and direct influence via funding programmes/procurement to ensure that standards in data interoperability and accessibility are adhered to'.[798]

10.51 We asked EMIS to list all instances in the last three years where a PHM services provider has approached EMIS to request customised support and/or development resource/time (eg in order to look to establish a customised API or another type of customised interface with EMIS's products). EMIS submitted that only [✂] has done so – [✂] and EMIS are working on a customised interface between [✂] and EMIS-X. EMIS further submitted that the NHS's policy and the direction of travel of the market are toward

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[794] The Parties, response to the Issues Statement, 31 May 2023, paragraphs 5.34-5.35.
[795] [✂].
[796] [✂].
[797] [✂].
[798] [✂].

standardisation of interfaces, and that this is reflected in the lack of requests that EMIS has received for development of bespoke interfaces.[799,800]

Our conclusion

10.52 We have found limited evidence indicating that custom integrations are currently used by PHM services providers to access primary care data held by EMIS. In a number of cases, legacy custom integrations have been replaced by EXA (which we have considered at paragraphs 10.54-10.90 below). The evidence is more mixed in relation to whether custom integrations are likely to be used by PHM services providers in future. Whilst some PHM services providers expect customised integrations to become more common in the future, others do not, and EMIS has only received a request to set up custom integration in the last three years from one PHM services provider, [✂].

10.53 Overall, for these reasons, we consider that it is not plausible that the Merged Entity could partially foreclose PHM services rivals through this mechanism.

Raising costs through EXA

10.54 As set out in Chapter 4, EXA is an EMIS product available in England that allows customers to access a near 'real time' copy of the data stored on EMIS Web. Based on the third party concerns we have received (see paragraph 10.70 below), we have focused our analysis on whether the Merged Entity would have the ability to partially foreclose rival PHM services providers by increasing the cost of EXA. However, we consider that our analysis would be similar if we considered whether the Merged Entity could reduce service quality (eg through reduced cooperation and support) or restrict data access through EXA. In making this assessment, we have considered:

(a) the Parties' submissions; and

(b) third party feedback.

[799] EMIS, UH - EMIS - Third Submission to the First EMIS Section 109 Request.pdf, 17 May 2023, paragraphs 23.1-23.3.
[800] EMIS also noted that the [✂] and EMIS-X interface is being built as an open API, and when complete it will be made available to third parties in compliance with the Open API Policy and the Commercial Standard – see The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 33.

Parties' submissions

10.55 The Parties submitted that the Merged Entity would have no ability to foreclose its rivals in PHM by increasing the cost of EXA.[801] In particular, the Parties submitted that:

(a) *Ability to target partial foreclosure:* Only one user of EXA ([✂]) is also a PHM provider in the UK and EMIS is not privy to whether the data extracted via EXA is used for the purposes of PHM or otherwise.[802,803] The Merged Entity could not target a partial foreclosure strategy at [✂] – it would not be possible to disrupt [✂] PHM solution (which the Parties understand operates through its shared care record product) without otherwise impacting the provision of shared care record services to the relevant ICBs.[804]

(b) *Alternatives to EXA:* EMIS does not control access to the primary care data, and there are many routes to access the data including IM1, CSUs, third party data intermediaries, and receiving data directly from ICBs, which provide all the primary care data that is necessary to offer PHM services.[805] For example, Optum itself does not use EXA and gets primary care data from CSUs or directly from ICBs.[806]

(c) *EXA's role and IM1:* Extracts from EXA are sourced from the same underlying data as an IM1 Bulk extract.[807] EXA's role in PHM is limited to the organisation and formatting of the data,[808] whereas when accessing primary care data via IM1, the data needs to be filtered and formatted. This can be done in-house or by third party suppliers (IBM, Deloitte, KPMG, etc).[809] In addition, [✂] has recently moved from EXA to IM1.[810]

(d) *The DCS Catalogue:* Should the Merged Entity attempt to raise prices, PHM providers would be able to purchase the services 'on-Catalogue'

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[801] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 1.4.
[802] The Parties, response to the Issues Statement, 31 May 2023, paragraph 5.20.
[803] We note that CSUs also use EXA to access primary care data held by EMIS and are also providers of PHM services (see paragraph 10.62 below).
[804] UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 38.
[805] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraphs 1.4(i)-1.4(ii).
[806] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 1.4(iii).
[807] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 39.
[808] The Parties, response to the Issues Statement, 31 May 2023, paragraph 5.22.
[809] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 1.4(iv).
[810] The Parties, response to the Issues Statement, paragraph 5.22. We understand that [✂] is active in Life Sciences and clinical research, not in PHM [✂].

and benefit from the price capped by the NHS (with [✂], already procuring through the DCS Catalogue).[811]

10.56 In the next two sections we summarise the Parties' submissions in relation to: (i) similarities and differences between EXA and IM1; and (ii) EXA's pricing.

- *EXA vs IM1*

10.57 In relation to substitutability of EXA with IM1, EMIS submitted that there are various reasons why a third party may choose to use EXA to extract data instead of IM1, including:[812]

(a) some third parties do not have the necessary infrastructure to securely hold patient identifiable data extracted via IM1, and, unlike EXA, IM1 does not include the provision of anonymised or pseudo anonymised data;

(b) EXA can be used to extract data across multiple GP practices or organisations, while IM1 is designed for single GP practice data extracts;

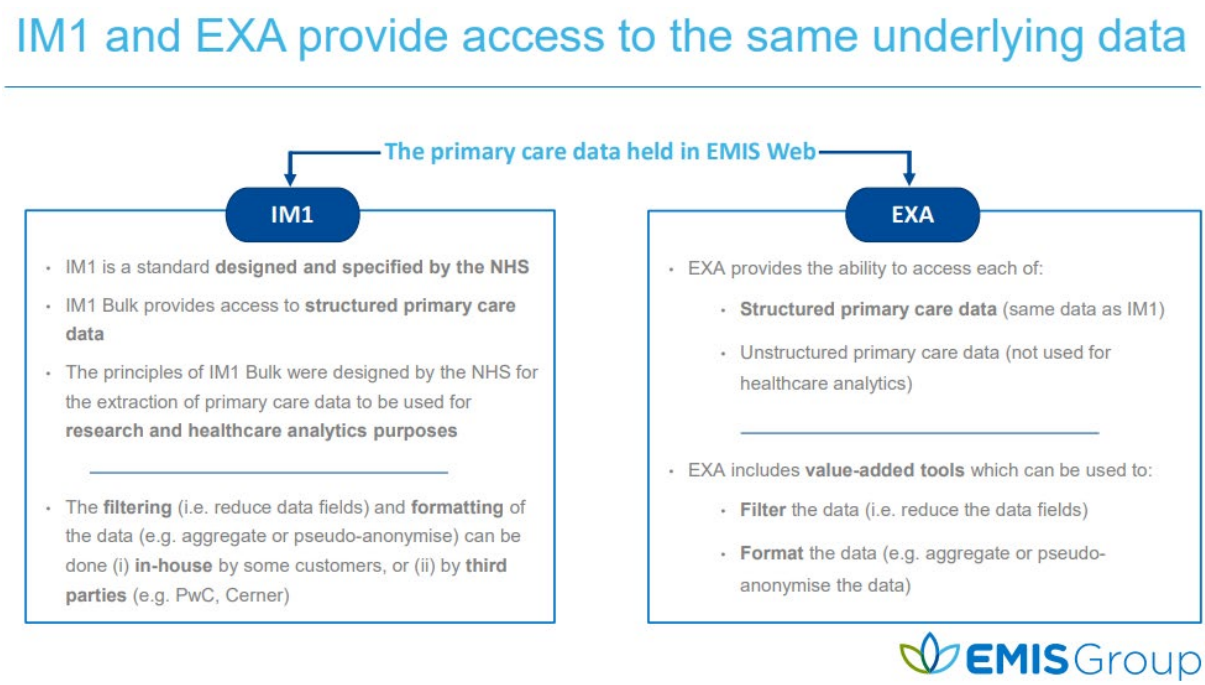
(c) some third parties with in-house SQL[813] capabilities prefer to make use of the ability to build and refine their data extracts using EXA; and

(d) some third parties are able to use EMIS's SQL templates to replicate data extracts that they historically received from EMIS before the development of EXA.

10.58 The Parties submitted that, in respect of the use of EXA for PHM purposes, there is however no aspect of EXA's services that cannot be obtained (i) via an NHS mandated interface or NHS body and free of charge, and/or (ii) in-house or via a different third party supplier.[814] The Parties also submitted that 'IM1 and EXA provide access to the same underlying data', as illustrated in Figure 10.1 below.[815]

[811] The Parties, response to the Issues Statement, dated 17 May 2023, 31 May 2023, paragraph 5.23; see also EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, paragraph 3.1.
[812] EMIS, CONFIDENTIAL EMIS Response to RFI 3 - 9 June 2023(34346716.1).pdf, paragraph 1.3.
[813] SQL is a programming language for storing and processing information in a relational database.
[814] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, pages 40-41.
[815] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 3.9.

Figure 10.1: Slide 3 from EMIS Main Party hearing Opening Statement Slide Deck



Source: UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 3.9.

- *Pricing*

10.59 EMIS submitted that [✂] price per patient per annum is £0.15 as, until very recently, £0.15 was the price cap listed for EXA on the DCS Catalogue.[816]

10.60 EMIS recently requested to revise the DCS Catalogue pricing to a tiered model under which prices would vary between £0.17 and £0.33 per patient per annum, and obtained approval from NHS England.[817,818] Under this model, customers can choose between: (i) a standard package costing £0.17 per patient per annum and including access to data held in EMIS Web, the ability to run queries over such data, and access to online support and training; and (ii) a plus package costing £0.33 per patient per annum and including additional features.[819] EMIS does not consider that the plus package is relevant to PHM activities,[820] and noted that, to date, [✂].[821]

10.61 EMIS explained that, to request a price change, it would normally contact NHS England to inform it of the intent to submit a change request, and to

[816] EMIS, 20230727 - EMIS response 109 5 Qs 1 and 2.pdf, paragraphs 1.2-1.4.
[817] EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, paragraph 2.1.
[818] EMIS also submitted that NHS England (formerly NHS Digital) [✂] a request by EMIS to revise the pricing of an EMIS product on the DCS Catalogue, although EMIS has [✂] – see EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, paragraph 2.6.
[819] EMIS, 20230727 - EMIS response 109 5 Qs 1 and 2.pdf, paragraphs 2.1-2.2.
[820] 20230727 - EMIS response 109 5 Qs 1 and 2.pdf, June 2023, paragraph 2.3.
[821] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 41.

provide context and preliminary detail. NHS England would then provide a copy of the change request template for EMIS to complete and return. NHS England would also question EMIS on the outcomes for the customer.[822] EMIS expects these requests are reviewed by NHS England in particular for anti-competitive pricing and/or significant price increases.[823]

10.62 EMIS submitted that it is not aware of any direct mechanism that NHS England has to impose a price reduction for a product listed on the DCS Catalogue, or that it has ever done so.[824] However, EMIS further submitted that, in practice, the NHS has the ability to limit prices where appropriate.[825]

10.63 EMIS noted that only NHS bodies may 'call-off' contracts via the DCS Catalogue, but in practice the DCS Catalogue price acts as an effective price cap even for non-NHS customers such as [✂] (who purchased EXA at the DCS Catalogue price) and in respect of off-Catalogue procurements.[826] EMIS also noted that:[827]

(a) NHS customers (eg [✂] and [✂]) come directly to EMIS to negotiate a reduced price;

(b) ICBs may call off an EXA contract for use by PHM services providers; and

(c) If a PHM services provider were unhappy with the off-Catalogue price of EXA, it could complain with the NHS, which would be incentivised to intervene.

Third party feedback

10.64 In the next sections we summarise feedback from: (i) PHM services providers; and (ii) NHS England.

- *PHM services providers*

10.65 As set out in paragraph 10.26 above, CSUs, which provide primary care data to several PHM services providers (including Optum), use EXA to access

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[822] EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, paragraph 2.4.
[823] EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdfparagraph 2.5.
[824] EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdfparagraph 2.8.
[825] In particular, EMIS made the following remarks: (i) NHS England could vary the relevant Framework to impose a price cap in respect of a particular product (eg the price of EMIS Web is capped); NHS England could introduce a new Framework, under which a price cap could be set (eg NHS England recently introduced the Digital First Online and Video Consultation Framework, and imposed a price cap for the services included); and (iii) 'given the importance of the NHS … EMIS expects that, if NHS England considered that a price reduction was necessary in light of particular circumstances, such a request would be made'. See EMIS, UH EMIS - EMIS Response to Section 109 Request dated 15 June 2023.pdf, paragraph 2.9.
[826] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, page 40.
[827] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, page 40.

primary care data held by EMIS. CSUs are also themselves providers of PHM services and compete with Optum.[828] As set out in paragraph 10.36 above, [✂] also uses EXA to access primary care data held by EMIS.

10.66 In the next sections, we summarise PHM services providers' feedback in relation to: (i) alternatives to EXA, including IM1; (ii) EXA's pricing; and (iii) NHS England's ability to prevent foreclosure.

- *Alternatives to EXA*

10.67 We received mixed feedback from PHM services providers on whether IM1 provides sufficient access to primary care data in order to effectively provide PHM services now and over the next five years.

(a) Some providers submitted that IM1 is and would be sufficient:

(i) Two providers submitted that IM1 is a valid alternative to the routes they currently use to access data held by EMIS.[829, 830] One of these also submitted that in its opinion the IM1 standards will provide sufficient access to primary care data over the next five years.[831]

(ii) Another provider submitted that it is able to access the data needed under the IM1 standards to deliver PHM programmes.[832] This provider also submitted: 'We would expect that the data needs we have ... will have evolved in five years time and we would expect the IM1 standard to evolve in line bringing suppliers with it, or for there be an alternative in place'.[833]

(b) Other PHM services providers instead said IM1 is not sufficient.[834] For example:

(i) One provider submitted: 'The IM1 standards do provide data which is useful in a PHM context ... However, for our business it would be a lowest common denominator approach and much of our additional benefits and extended services would be adversely impacted'.[835] This provider also submitted: 'IM1 provides a relatively small subset of the GP data we use ... It would require a major revision of scope if IM1 were to meet our requirements ... Whether IM1 will evolve in the

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[828] FMN, paragraphs 14.10-14.11 and Table 10.
[829] [✂].
[830] [✂].
[831] [✂].
[832] [✂].
[833] [✂].
[834] [✂].
[835] [✂].

future is dependent on [NHS England] setting more advanced requirements and it does not seem likely that this will happen'.[836]

(ii) Another provider submitted that 'IM1 is free and generic in terms of EMIS data scheme',[837] but that it is not sufficient 'as [IM1] does not provide access to full unstructured data' and that 'EMIS are forcing data customers to go down specific commercial routes ([EXA]) in order to access high quality unstructured data'.[838] This provider also submitted that the 'NHS IM1 standards need to be enhanced to meet our data access needs without incurring significant additional cost'.[839]

(iii) One CSU told us that the full scope of data provided by EXA is not available via IM1. This CSU further told us that certain activity types are completely missing from the IM1 data, which may miss some rows and columns when compared with data extracted via EXA.[840]

10.68 One limitation of IM1 identified by PHM services providers is that IM1 extracts do not include unstructured data (see paragraph 10.67(b)(ii) above).[841] We understand that unstructured data can be an important input for direct care and clinical decision support solutions,[842] but it is not generally used as an input for most PHM services, and that in any event it is not used by Optum to provide PHM services in the UK.[843]

10.69 Third parties identified Apollo as a potential alternative to EXA (see also footnote 757 above and paragraph 10.71below).[844] The Parties described Apollo as a strong competitor to EXA, used by third parties for both data extraction and data filtering and formatting.[845] The Parties also mentioned MedeAnalytics as a third party offering data formatting and analytics capabilities, and supporting ICSs and CSUs, although MedeAnalytics was not mentioned by third parties.[846]

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[836] [✂].
[837] [✂].
[838] [✂].
[839] [✂].
[840] [✂].
[841] See also [✂].
[842] [✂].
[843] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 3.7(ii)(c) and 1.
[844] [✂], and [✂].
[845] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 43.
[846] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 44.

- *Pricing*

10.70 Several PHM services providers raised concerns about the pricing of EXA and EMIS's strategy and/or the Merged Entity's strategy in relation to EXA, although we note that some of these concerns do not appear to be related to the Merger.

(a) One provider submitted: 'EMIS is in total control of the performance, scope and price of its [EXA] platform. The service cannot be procured elsewhere and this enables them to set commercial pricing and service levels without competitive influence, so technically and in practice they could [increase the price of data extraction through EXA]'.[847]

(b) Another provider submitted that after the Merger EMIS would become 'a direct competitor [in PHM and] would be incentivised to engage in [increasing the price of data extraction through EXA]'.[848]

(c) Another provider submitted: 'The costs associated with securing data through [EXA] are currently prohibitive. We believe this is a deliberate policy on behalf of EMIS in a bid to price competitors out of the PHM analytics market … In the current climate [CSUs are] our only route to securing data'.[849] This provider also submitted: 'in our experience the only route to data being offered to us [by EMIS] is via [EXA]'.[850]

(d) Another provider submitted that, if it had to use EXA or IM1 to access primary care data (ie as a result of EMIS acting obstructively, [✂]), its cost of accessing data would increase to the extent of making its offering uncompetitive.[851]

(e) One CSU submitted that, in its opinion, EMIS would increase the price of data extraction through EXA after the Merger.[852]

(f) Another CSU told us it is concerned that the Merged Entity could increase the price of this data access for its PHM competitors, thereby giving its own PHM product an unfair advantage, with rivals priced out of accessing the EMIS held data.[853]

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[847] [✂].
[848] [✂].
[849] [✂].
[850] [✂].
[851] Call with [✂].
[852] [✂].
[853] [✂].

10.71 Feedback from third parties indicates that sometimes CSUs do not pay for data extracts through EXA directly, with ICBs instead paying for this cost.[854] One CSU submitted that, were EMIS to increase the cost of EXA, its ICB customers 'would either need to stop accessing GP data or pay the price depending on affordability'.[855] Another CSU told us that, due to the prohibitive price of EXA, some ICBs are excluding (or considering excluding) primary care data altogether from their PHM activities while waiting to see if a third party, such as Apollo, can provide a lower cost alternative.[856]

10.72 We have also received evidence relating to the importance of service quality to customers of EXA. One EXA customer told us that it had worked closely with EMIS and invested significantly in ensuring EXA could meet their data needs. This included EMIS developing views and schemas in EXA specific to the PHM services customer's requirements.[857]

- *NHS England's ability to prevent partial foreclosure*

10.73 We asked PHM services providers whether in their opinion NHS England[858] in general would be effective at preventing the Merged Entity from restricting data access and interoperability with EMIS's primary care EPR system, were the Merged Entity to try to do so post-Merger.

(a) Several respondents had reservations about NHS England's ability to prevent such behaviour.[859] For example:

(i) One provider submitted: 'No, EMIS's customers are GP practices, and we do not believe, based on our experience, that NHS [England] would be, through the imposition of standards or otherwise, able to be effective'.[860]

(ii) Another provider submitted: 'Difficult to say. NHS [England] is currently subject to a further set of NHS re-organisation and as such it would seem unlikely that this matter is a current area of a) focus b) priority'.[861]

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[854] [✂].
[855] [✂].
[856] This CSU also told us that it has not considered procuring EXA from the DCS Catalogue as in its experience the DCS Catalogue provides a faster route to procurement rather than a cheaper one, and the price of EXA included on the DCS Catalogue was expected to still be significantly more expensive than the previous custom route it used. See [✂].
[857] [✂].
[858] As mentioned above, EXA is currently only available in England.
[859] [✂]; Market Participant A response to the Provisional Findings, 31 August 2023, page 2.
[860] [✂].
[861] [✂].

(iii) Another provider submitted that many of the escalation routes available with the NHS seem more directly related to clinical systems rather than data provision for PHM, and that it is already aware of significant delays experienced by PHM suppliers gaining access to specific extractions of primary care data, due to EMIS not providing access in a timely manner.[862]

(b) Two respondents had more positive feedback:

(i) One provider thought NHS England would be effective at preventing the Merged Entity from restricting data access and interoperability.[863]

(ii) Another provider considered that restricting access through certain routes such as GP Connect could be prevented, while it could be more difficult to prevent restricting access through customised APIs. This provider also submitted: 'We would expect to see some severe reputational damage to EMIS should they attempt to restrict interoperability and the use of EMIS data to the extent that it would be prohibitive to do so'.[864]

(c) A few respondents also indicated that they have regular meetings with NHS England, during which they could potentially raise concerns.[865]

- *NHS England*

10.74 In the next sections, we summarise NHS England's feedback in relation to: (i) differences between EXA and IM1; (ii) EXA's pricing; and (iii) NHS England's planned refresh of the Contractual Framework.

- *EXA vs IM1*

10.75 NHS England submitted that the current IM1 standards are dated and need to be brought in line with the current capabilities in the market.[866] NHS England submitted that, for example, some customers use EMIS's EXA instead of IM1, as EXA allows for data to be interrogated as close to real time as possible whereas the IM1 bulk interface allows for data to be transferred daily, and told us that the capability of EXA is 'far above that currently required under

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[862] Market Participant A response to the Provisional Findings, 31 August 2023, page 2. This provider also told us that foreclosure behaviours would be near impossible to detect and resolve, and that it believes they would go unpunished – see Call with [✂].
[863] [✂].
[864] [✂].
[865] [✂].
[866] [✂] – see [✂].

IM1'.[867] NHS England further told us that IM1 cannot be used for any context where the data needs to be interrogated as close to real time as possible.[868] In relation to this point, the Parties submitted that there are no material differences between EXA and IM1 as regards data latency, and that at present EMIS updates the copy of the data held in EMIS Web, which EXA relies on, incrementally with a process typically taking around one to two hours.[869] The Parties also submitted that real time data is not required for PHM services as the nature of PHM services is to take historic data into account to support the NHS to offer preventative services, and that only activities for direct care require real time/near-time data.[870]

10.76 NHS England also told us that some customers are moving from IM1 to EXA, although this is limited due to the cost differential between IM1 and EXA.[871]

- *Pricing*

10.77 NHS England submitted that EXA is available on the DCS Catalogue as a separate service from EMIS Web, and as a 'Non Foundation Solution' is not subject to the charging constraints placed around standardised data and API provision and to a price cap. NHS England submitted that this means that EMIS could contractually increase the price of EXA from time to time so long as it is done in accordance with the Commercial Standard.[872]

10.78 NHS England told us that some supplier activity falls beyond the scope of what is controlled by its standards. One such area may be where suppliers process and provide analytics on raw data. Whilst the raw data is protected (and mostly free) under its standards, the processed data could fall outside IM1 and the Commercial and Interoperability Standards because of the 'value added' service of data processing.[873] [✂],[874] [✂].[875]

10.79 However, NHS England also submitted that EMIS is a 'strategic supplier' to NHS England, and should there be complaints relating to price increases, then NHS England have regular supplier meetings where these can be raised and discussed.[876]

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[867] [✂].
[868] [✂].
[869] The Parties, UH_EMIS__Annex 1 to Response to PHM Working Paper Annotated Response (19 July 2023).pdf, page 48.
[870] The Parties, UH_EMIS__Response to PHM Working Paper (19 July 2023).pdf, paragraph 3.7(iii).
[871] [✂].
[872] [✂].
[873] [✂].
[874] [✂].
[875] [✂].
[876] [✂].

10.80 NHS England also submitted that, were EMIS to increase the price of EXA beyond a reasonable amount, NHS England would utilise the Commercial Standard to request a technical audit of EXA to establish the extent to which the service represented a 'material data management service' or a 'data availability service'. In the latter case, EXA would be subject to the data processing pricing rules and NHS England would seek to establish the costs of service provision in order to set a fair price. If instead it were established that EXA represented a mixture of 'access mechanism plus transformation', NHS England would seek to determine the relative extent of each within the service and apply pressure regarding price controls. [877]

- *Refresh of the Contractual Framework*

10.81 NHS England told us that a refresh of its standards including IM1 is needed and that this refresh would ideally be able to standardise all (or most) EXA interfaces, and force greater interoperability to take away some of the potential market power associated with EXA.[878]

10.82 NHS England further submitted that it is planning a refresh of the Contractual Framework and the introduction of the [✂].[879]

10.83 NHS England explained the framework refresh will provide the opportunity to further evolve the standards suppliers need to meet, including in relation to APIs.[880] As part of this refresh its mandated APIs could be modernised and reinforced, and ideally they would cover at least part of the EXA functionalities and force greater interoperability.[881] NHS England submitted that this is part of the 'NHS architecture / technical strategy which will be prosecuted via the Primary Care wide Primary Care Access Recovery Plan incentive activities that [NHS England] are conducting from winter this year'.[882]

10.84 In relation [✂] is designed to 'reflect the overall investment [NHS England] want Foundation suppliers to make in facilitation of better forms of Data Access, on top of the basic support of transactions and gives [NHS England] the engagement mechanisms and contractual leverage to support improved 'point to point' data access'.[883]

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[877] [✂].
[878] [✂].
[879] [✂].
[880] [✂].
[881] [✂].
[882] [✂].
[883] [✂].

10.85 NHS England submitted that refresh of the Contractual Framework and the introduction of the Service Access Fee represent a mitigation to the risks associated with EXA.[884]

Our conclusion

10.86 Feedback from some PHM services providers and NHS England indicates that IM1 currently has some limitations, particularly when compared with EXA (see paragraphs 10.67-10.68 and 10.75-10.76 above). However, we understand that the limitations of IM1 identified by third parties in relation to unstructured data and real/near-time data are relevant for a wider set of uses and services (eg data reporting and direct care/clinical decision solutions), and are less relevant for PHM services currently, or at least for PHM services equivalent to those offered by Optum in the UK (see paragraphs 10.68 and 10.75 above). We also note that only one PHM services provider (excluding the CSUs) currently uses EXA to access data held by EMIS (see paragraph 10.65 above).

10.87 Several PHM services providers and NHS England also raised concerns about the pricing of, and the Merged Entity's strategy in relation to, EXA (see paragraph 10.70 above), although some of these concerns were not Merger-specific. We consider that the list price of EXA on the DCS Catalogue could provide some protection against price increases to at least some customers, including CSUs and ICBs (see paragraphs 10.52(d) and 10.56-10.60 above). NHS England submitted that it would react to complaints related to increases in the price of EXA (see paragraphs 10.79-10.80 above) and would look to take action if needed.

10.88 Several (but not all) PHM services providers had reservations about NHS England's ability to prevent foreclosure (see paragraph 10.73 above). NHS England accepted that some supplier activity falls beyond the scope of its standards (see paragraph 10.78 above). However, NHS England also told us that the refresh of the Contractual Framework and the commercial terms of [✂] planned by NHS England (see paragraphs 10.81-10.85 above) could constitute a mitigation to the risk of partial foreclosure through EXA, including through the reinforcement of the NHS mandated interfaces that could include at least part of EXA's functionalities.

10.89 Given the importance of PHM in the *NHS Long Term Plan* and among the ICSs' functions,[885] we consider that NHS England would be likely to intervene

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[884] [✂].
[885] See NHS Long Term Plan v1.2 August 2019, page 97, and NHS England » Population Health and the Population Health Management Programme.

were it to suspect that the Merged Entity was engaging in behaviours that could significantly affect competition in the PHM space. We also note that NHS England intervened in the past specifically in relation to its mandated interfaces, and obtained a modification to the scope of IM1 to include EMIS's Partner API as a mandated IM1 interface (IM1 Partner).[886]

10.90 For these reasons, overall, we consider that it is not plausible that the Merged Entity could partially foreclose PHM services rivals through this mechanism.

Conclusion on ability

10.91 We consider that EMIS has market power in the supply of primary care EPR systems, and that primary care data held by EMIS is an important input for PHM services providers. However, we consider that none of the potential partial foreclosure mechanisms we have identified are plausible. We therefore consider that the Merged Entity is unlikely to have the ability to partially foreclose PHM services rivals.

Incentive and Effect

10.92 As we have found that the Merged Entity is unlikely to have the ability to partially foreclose PHM services rivals, we have not considered whether it would have an incentive to do so, and we have not considered the potential impact of partial foreclosure on overall competition.

Conclusion on partial foreclosure in the supply of PHM services

10.93 As we have found that the Merged Entity is unlikely to have the ability to partially foreclose PHM services rivals, we consider that the Merger is unlikely to give rise to an SLC as a result of partial foreclosure in the supply of PHM services in the UK.

[886] The Parties, response to the Issues Statement, 31 May 2023, paragraphs 3.37-3.38.

11. Conclusion

11.1 As a result of our assessment which is set out in the preceding chapters, we have concluded that:

(a) the anticipated acquisition of EMIS by UH, if carried into effect, will result in the creation of an RMS; and

(b) the creation of that RMS may not be expected to result in an SLC within any market or markets in the UK for goods or services.