ECONOMIC ANALYSIS OF NHS PHARMACEUTICAL SERVICES IN ENGLAND

Final Report – ANNEXES

MARCH 2025

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Annex A – Approach to key methodological and technical issues

Our analysis required us to address a number of key methodological and technical issues. The sections below provide additional detail on these key issues.

A.1 Definition of pharmaceutical services

For the purposes of this project, we defined pharmaceutical services as falling into three categories:

Table 1 Definition of pharmaceutical services

Category	Definition (as used in primary data collection)
In-scope NHS services (NHS services and OTC healthcare sales)	These are the services we want to understand in detail to fulfil the core objectives of our work. They include the two types of NHS pharmaceutical services listed below: • Essential Services: NHS dispensing, disposal of unwanted medicines, Healthy living pharmacy status, Public Health, Promotion of healthy lifestyles, repeat dispensing and eRD, signposting, support for self care including subsequent OTC sales of healthcare related products – this includes sales of General Sales List (GSL) and Pharmacy-only (P) medicines as well as products such as (but not limited to) Surgical/Dressings, Dental, Vitamins, Family planning, Eye Care, Skin care (excluding cosmetics). • Advanced Services: Services commissioned by the NHS nationally: Pharmacy First service (CPCS for historic data), NHS Flu vaccination service, pharmacy contraception service, Hypertension case finding service, New Medication Service, NHS Smoking Cessation service, Appliance Use Review, Stoma Appliance Customisation, Lateral Flow Device service
Beyond-scope local services (Locally funded services)	These are services which are commissioned locally by the NHS or local authority and not funded by the national NHS contract. Examples include: • Enhanced Services, such as COVID vaccinations • Services contracted locally under the NHS Standard Contract • Services contract under LPS contracts

Category	Definition (as used in primary data collection)
	• Services commissioned by local authorities such as the supervision component of supervised consumption These are not in the scope of our analysis, but there may be some overlap in costs between these services and in-scope NHS services (e.g. staff time) so we need to understand where these are offered in order to treat these costs appropriately.
Beyond-scope private and other services (Private services and other sales)	These are services not commissioned by the NHS or local authority. This includes all private services. This also includes sales of non-healthcare related products. Examples include Personal Hygiene, Toiletries, Household, Sanitary Towels, Cosmetics. These are not in the scope of our analysis, but there may be some overlap in costs between these services and in-scope NHS services (e.g. staff time) so we need to understand where these are offered in order to treat these costs appropriately.

Source: Frontier Economics and IQVIA

Our analysis was focused on in-scope NHS services. We gathered data on beyond-scope services only insofar as it was necessary, for example to understand costs which are shared across these categories of services.

A.2 Funding

We gathered data on multiple alternative measures of the funding and wider turnover received by pharmacies.

Through our primary data collection, we gathered:

Turnover measure 1: Full accounting turnover (all revenue streams). Total (ex-VAT) turnover per pharmacy for the last complete accounting year (including all fees, BSA drug reimbursement, private / other services) (bottom-up question C1, top-down question 6).

Turnover measure 2: Partial/hybrid turnover (turnover measure 1 less NHS drug reimbursement turnover). Total (ex-VAT) turnover per pharmacy for the last complete accounting year (including fees, private / other services) EXCLUDING BSA drug reimbursement (C5, 8).[1]

[1] Note that while BSA drug reimbursement has been excluded (consistent with our estimate of full economic cost, which excludes the associated cost of goods sold), turnover (ex-VAT) from OTC healthcare sales remains in turnover measures 2, 3 and 4 (which is slightly inconsistent with our definition of full economic cost – this is addressed by using funding measure 2 as our primary measure, and through a sensitivity in Section 11).

These measures include turnover from beyond-scope services. We also gathered data on the proportion of C1 which was from beyond-scope services (C3, C4, 7). This allowed us to calculate:

Turnover measure 3: Partial/hybrid in-scope turnover (in-scope turnover less NHS drug reimbursement turnover). Fees but not AMM element of funding delivered through NHS drug reimbursement for in-scope NHS services, plus OTC retail sales turnover, per pharmacy, for the last complete accounting year, excluding drug reimbursement (C5 – (C3+C4)*C1).

Turnover measure 3 includes – due to the definition of in-scope NHS services – turnover (ex-VAT) from OTC healthcare sales, which is received from pharmacy customers rather than from the NHS.

We also gathered data from NHS BSA which estimated turnover measure 3, but excluded the turnover from OTC healthcare sales:

Funding measure 1: Partial / hybrid funding (in-scope fees, but not including NHS Allowed Medicines Margin element of funding). Funding for in-scope NHS services *excluding OTC healthcare sales*, per pharmacy, for the last complete accounting year, excluding drug reimbursement (BSA data).

Drug reimbursement in these definitions includes Allowed Medicines Margin (AMM). Turnover measure 3 and funding measure 1 both therefore exclude AMM. However, for consistency with our preferred definition of funding for this project (see Section 3.1), it was necessary to 'add back in' AMM. It was not possible to gather accurate information on AMM at pharmacy level. We therefore allocate AMM to pharmacies as described in Section 10.2.1. This allowed us to calculate:

Turnover measure 4: Partial / hybrid turnover (in-scope fees and NHS Allowed Medicines Margin element of funding plus OTC Healthcare turnover). Turnover for in-scope NHS services, per pharmacy, for the last complete accounting year, excluding drug reimbursement but including estimated AMM, plus OTC healthcare turnover.[2]

Funding measure 2: Funding (in-scope fees plus NHS Allowed Medicines Margin element of funding). Funding for in-scope NHS services *excluding OTC healthcare sales*, per pharmacy, for the last complete accounting year, excluding drug reimbursement but including estimated AMM.[3]

'Over-delivery' of funding to the sector

Funding to the community pharmacy sector varies in different time periods. In principle, the 'global sum' of £2.592 billion per year is set in advance. However, in any given year, depending upon the quantum of activity delivered by pharmacies in response to patient demand, the level

[2] Turnover measure 4 was calculated by taking turnover measure 3 and adding our estimate for AMM.

[3] Funding measure 2 was calculated by taking funding measure 1 and adding our estimate for AMM.

of funding received can be higher or lower than the target global sum figure. There is then a system by which funding can be adjusted in following years to ensure that multi-year funding reflects the target global sum, although in recent years some additional funding has been 'written off' i.e. will not be subtracted from funding in future years. In addition, separate funding (outside the global sum) for certain activities, such as flu vaccinations and Pharmacy First, varies between years.[4] These factors make it difficult to identify what the 'steady state' level of funding for the sector is.

The last three years (since 2021-22) have been periods of over-delivery, meaning that higher funding was received, alongside additional funding for the delivery of separately-funded services. In 2023-24, relative to the global sum of £2.592 billion, the following additional funding was delivered:

- CPCF fees outturn over-delivery of £46.2 million.
- AMM over-delivery of £39.6 million.
- Pharmacy First fees of £41.4 million, including set-up fees.
- Flu Vaccinations fees of £36.2 million.

Collectively, in 2023-24 these accounted for £163.4 million of additional funding, around 6% above the global sum, giving £2.755 billion in total.

Our estimate for funding measure 2 includes all of the above funding. However, we note that due to differing time periods in the primary data collected, the funding received by pharmacies in our dataset will vary slightly from the above. We account for this by ensuring that:

- costs and funding, for each pharmacy, are compared on a like-for-like basis; and
- in our extrapolation to England (see Section 10.3.1) we adjust our aggregate funding and cost figures to align with the total above for 2023-24.

A.3 Allocation of centralised costs

We asked pharmacies to provide data on any centralised costs, separate to those at the level of an individual pharmacy. For pharmacy chains, this includes Head Office costs (e.g. a shared accounting function which supports multiple individual pharmacies). These costs are shared between multiple pharmacies, and it is necessary to allocate them to individual pharmacies, to support our pharmacy-level analysis (although some companies provided data to us which was already allocated to pharmacy level).[5]

[4] See, for example, https://cpe.org.uk/our-news/contractor-announcement-cpcf-arrangements-for-2022-23-and-2023-24-agreed/ and https://cpe.org.uk/wp-content/uploads/2023/11/Briefing-030.23-Funding-for-Pharmacy-First-and-other-funding-related-changes-in-the-Recovery-Plan-deal.pdf

[5] This allocation was carried out by the companies themselves and did not necessarily perfectly align with the volume-based allocation which we implemented elsewhere.

Centralised costs were allocated to pharmacies on the basis of the number of dispensed items accounted for by each pharmacy, as a share of all prescription items.

In reality, chains with multiple pharmacies may allocate costs (for accounting purposes) in a range of different ways, which we did not attempt to re-create or standardise as it was not proportionate to do so. The most important point for our analysis is that all costs are included.

This approach is applied to all costs, including hidden and structural costs (discussed below).

A.4 Allocation of hub-and-spoke costs

Some pharmacies operate a 'hub-and-spoke' model, where some prescriptions are centrally handled in a hub, and then distributed to multiple separate pharmacy locations (the 'spokes'). Over the period of data collected for this project, the only hub-and-spoke models used across England were 'intra-company', in which all the 'spoke' pharmacies belong to the same parent company.

In future, 'inter-company' models may also be possible, in which the 'spoke' pharmacies may belong to different parent companies.

We asked pharmacies to provide data on any hub-and-spoke costs, separate to those at the level of an individual pharmacy and separate to any other centralised costs as noted above. These costs are shared between multiple pharmacies, and it is necessary to allocate them to individual pharmacies, to support our pharmacy-level analysis.

Hub-and-spoke costs were allocated to pharmacies on the basis of the number of prescription items accounted for by each pharmacy, as a share of all prescription items.

If the hub serves only a subset of all pharmacies, we allocate hub costs only to those pharmacies where some of the prescription volume is sent to the hub, allocated as a share of the total items which are processed by the hub.

This approach is applied to all costs, including hidden and structural costs (discussed below).

A.5 Hidden and structural costs

Some pharmacy businesses incur costs which are not captured by traditional 'accounting costs'. We considered two categories of costs: hidden costs and structural costs (see Section 6.4). We asked pharmacies to provide information on these costs, by responding to the following questions.

These questions were asked separately in relation to pharmacy-level, hub-level and centralised costs:

Table 2 Hidden and structural costs

Question	Guidance
Are there any additional costs incurred through the pharmacy business which are not charged fully in the pharmacy accounts and will not be captured in your total cost estimate above?	Please answer yes or no. Examples of this include owner(s) / family member time not being charged at market rates, finance provided at below market rates, rent not being charged at market rate and / or usage of personal motor vehicles for commercial purposes.
If yes, please give an estimate of the annual value of these hidden costs.	Please give the annual amount extra (in pounds £) that would be shown in the pharmacy accounts.
Are there any costs that you are not incurring or important expenditure that you are putting off due to financial constraints, and which are therefore not captured in your total cost estimate above?	Please answer yes or no. Examples of this include third party costs of staff training, unfilled vacancies, repair and maintenance backlogs. You should only include training and maintenance that is considered essential but has not been undertaken or has been delayed. You should not include "nice to haves" such as upgrades to buildings which are not strictly needed or necessary.
If yes, please give an estimate of the annual value of these structural costs which were not possible to meet in the last complete accounting year.	Please give the annual amount extra (in pounds £) that would be shown in the pharmacy accounts for the last complete accounting year.

Source: Frontier Economics and IQVIA

A.6 Allocation of shared costs to in-scope NHS services

Our analysis estimates the cost of in-scope NHS pharmaceutical services. Where costs are shared between in-scope services and beyond-scope services (as defined above), it is necessary to allocate these shared costs appropriately.

To support this analysis, we asked pharmacies to answer the following questions:

Table 3 Allocation of shared costs to in-scope NHS services

Question	Guidance
What proportion of **total pharmacy-level annual costs** would be saved if the pharmacy did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Please estimate the proportion (%) of costs that would be saved if the pharmacy did not spend any time on any activity to deliver either 'beyond scope local services' or 'beyond-scope private and other services'. Note that the remaining in-scope NHS services include sales of OTC medicines and healthcare-related products.
What proportion of **staff costs** would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or 'beyond-scope private and other services'? (%)	
What proportion of **pharmacist costs** would be saved if staff did not perform any activity to deliver either 'beyond scope local services' or 'beyond-scope private and other services'? (%)	
What proportion of **non-pharmacist staff costs** would be saved if staff did not perform any activity to deliver either 'beyond scope local services' or 'beyond-scope private and other services'? (%)	
What proportion of your **total annual hub(s) costs** would be saved if the pharmacy did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	
What proportion of your **total annual centralised pharmacy costs** would be saved if the pharmacy did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	

Source: Frontier Economics and IQVIA

Our analysis allocates costs to in-scope NHS services, using the estimates provided by pharmacies in response to the questions above e.g. if 5% of pharmacy-level costs estimated to be saved, we allocate 95% of pharmacy-level costs to in-scope NHS services. This is calculated separately for pharmacy-level, hub and centralised costs where relevant.

A.7 Cost of drugs and NHS reimbursement

Pharmacies purchase the drugs and devices necessary to fulfil patient prescriptions. Where these are used to fulfil NHS prescriptions, these costs are reimbursed by the NHS under the rules set out in the Community Pharmacy Contractual Framework. Since these costs are substantively 'passed through' to the NHS, they have been **excluded** from our analysis of the

costs of NHS pharmaceutical services. To ensure our treatment of costs and funding is consistent:

- the costs of purchasing drugs and devices have been excluded from our estimated costs of delivering NHS pharmaceutical services, as have the cost of goods sold for OTC healthcare sales; and
- the associated reimbursement from the NHS has been excluded from our estimated funding for delivering NHS pharmaceutical services, apart from the Allowed Medicines Margin element of funding (see Annex A.2).

A.8 Cost of capital

Tangible Assets

Our primary data collection included questions on the replacement value of tangible fixed assets and the cash value of current assets. Responses to these questions provided the required input data for us to calculate tangible asset values at a pharmacy level.

Not all of these assets will be 100% dedicated to the NHS proportion[6] of each pharmacy's business. We are interested in calculating the cost of capital associated only with the NHS proportion of pharmacy business. As a result, we needed to assign a proportion of the total tangible asset base to the delivery of NHS pharmaceutical services. To minimise the length of the top-down and bottom-up surveys we did not collect granular data on the replacement value of different fixed assets (e.g. assets in the dispensing room vs. value of retail shelving). Therefore, we need to apply a scaling factor to total tangible asset values to proxy tangible assets which are dedicated to the delivery of NHS pharmaceutical services.

We assume that the proportion of a pharmacy's operating costs that are attributable to NHS services is a reasonable proxy for the proportion of a pharmacy's asset base which is used to deliver NHS services. Therefore, the scaling factor we have used also comes from the top-down and bottom-up surveys and relates to contractors' views on the proportion of total annual costs that would be saved if the pharmacy did not perform any activity to deliver either ***beyond-scope local services*** or ***beyond-scope private and other services***. For example, if a contractor estimates that they would save 10% of costs if these other services were discontinued, we assume that 90% of their tangible asset base is dedicated to NHS pharmaceutical services.

For the bottom-up survey specifically, we also asked respondents to report separately their assets held as stock, along with the proportion of this stock likely to be used for the provision of NHS services. Where this information was available, we allocated these specific assets

[6] NHS in this context refers to ***in-scope NHS services***. It excludes both ***beyond scope local services*** and ***beyond scope private and other services***.

based on this stock-specific proportion allocated to NHS services. Other asset classes were then adjusted as outlined above.

This approach will overestimate the proportion of assets which are dedicated to the delivery of NHS pharmaceutical services (and therefore exaggerate the cost of capital) if, on average, in-scope NHS pharmaceutical services are **more asset-intensive** than beyond scope services. This approach will underestimate the proportion of assets which are dedicated to the delivery of NHS pharmaceutical services (and therefore understate the cost of capital) if, on average, in-scope NHS pharmaceutical services are **less asset-intensive** than beyond scope services.

Separate scaling factors are applied at the pharmacy level and the centralised level, where relevant.

Intangible Assets

We estimated intangible asset values using the same method as used in the PwC (2011) analysis of pharmacy costs. PwC (2011) adopted a Greenfield modelling approach to estimate the value of intangible assets held by a pharmacy branch as a proportion of their NHS funding. A Greenfield modelling approach is a top-down approach based on a hypothetical comparison of the value of an established pharmacy against the value of a new start-up pharmacy. The difference in net present value reflects the intangible investment incurred when building up the new business. Further detail is available in PwC's CoSI report.[7]

In line with CoSI estimates, intangible in-scope assets are assumed to be 76.7% of annual NHS funding.[8] However, the analysis that we carried out in this report shows that current total FEC across England exceeds total NHS funding. Therefore, to calculate a sustainable level of intangible assets for each pharmacy we needed to explore what a sustainable version of NHS funding per pharmacy would look like. To do this, we scaled up each pharmacy's level of NHS funding according to the overall gap between the England-wide FEC and the global sum of NHS funding provided to the sector.[9]

WACC rate

We have attempted to estimate a forward-looking WACC rate which would prevail in the long-term if the community pharmacy sector were operating in a steady-state environment. Therefore, in several cases relatively less recent parameter values have deliberately been

7 https://cpe.org.uk/wp-content/uploads/2021/09/COSI-Report-FINAL.pdf

8 Excluding Cost of Goods Sold but including an estimate of AMM per pharmacy. This is approximately equal to 20% of total NHS turnover.

9 To avoid any circularity in these calculations we excluded our own calculated intangible cost of capital estimates from this version of FEC (which was adjusted to account for the current funding gap). Instead we included an estimate of intangible cost of capital (as a proportion of all other elements of FEC) from the PwC CoSI study in that version of FEC (2011).

used, where these better reflect a steady-state environment. We have provided sources for all secondary data used below.

The nominal WACC rate is composed of the cost of debt added to the cost of equity. This nominal WACC rate is then adjusted for inflation to give us the real WACC rate that we used in our final analysis.

The components of cost of debt are illustrated in Figure 1.

Figure 1 Cost of debt

Source: Frontier

The gearing ratio refers to the share of debt in a pharmacy's capital structure. We have taken an estimate of the gearing ratio used in the previous PwC (2011) analysis of pharmacy costs.[10] PwC examined the 5-year average debt-equity ratios of five selected pharmacy companies in a range of different geographic locations outside of the UK (including USA, Canada and Europe). The median gearing ratio is **0.19** which is what we used in our analysis. As noted above, current gearing ratios within community pharmacy in England may be higher (e.g. more debt relative to equity) due to recent financial pressures. However, as we are trying to estimate cost of capital in a steady-state environment we are comfortable using the older estimate which relates to a period where the community pharmacy sector was likely under less financial pressure.

Also in line with the previous PwC study (2011), we have assumed that the appropriate gearing ratio for smaller chains and independents is in effect 0 rather than 0.19. This is because the debt held by smaller pharmacy businesses may be more likely to be backed by personal guarantees (which constitutes a higher risk for the business owner) and therefore more closely resembles equity (which commands a higher return on average).

Our measure of the cost of debt itself is composed of two elements:

- The nominal risk-free rate which investors require to hold long-term government bonds.[11] This is approximately **5.2%**.
- The additional debt margin which investors will require to hold riskier debt. To measure this we have used the spread on medium grade corporate bonds which prevailed during the previous PwC study (approximately **2.5%**). Discussions with the Working Group

10 https://cpe.org.uk/wp-content/uploads/2021/09/cost-of-service-inquiry-for-community-pharmacy-appendices.pdf

11 UK 20-year bond yields as of 16/01/25 https://tradingeconomics.com/gukg20y:ind

emphasised that the cost of standard bank finance is currently higher than suggested by this margin. However, as noted above this is likely to be in large part due to current financial pressures which the sector is experiencing. We were therefore comfortable using the figures quoted above in our analysis.

Finally, we adjust the gearing ratio and cost of debt to account for corporate tax rates of 19-25% depending on the level of profits.[12]

The components of cost of equity are illustrated in Figure 2.

Figure 2 Cost of equity

Source: Frontier

As above: (1) the gearing ratio is set at 0.19 for larger chains and 0 for smaller chains and independents; and (2) the nominal risk-free rate is set at 4.5%.

The equity beta is a measure of the underlying volatility of the pharmacy sector relative to the broader equity market. The previous PwC (2011) study applied a Capital Asset Pricing Model framework to a selection of geographically dispersed comparator pharmacy organisations to estimate a beta value of **0.82**. This implies that overall the returns on the pharmacy companies' stocks were less volatile than the market returns observed during the period of that analysis.[13] We have also used this figure of **0.82** in our analysis. However, given the uncertainty associated with this which is based on relatively old information we have also included a range around this estimate of **0.64-1**. Our sensitivity analysis reflects this range.

We have used an overall equity market risk premium figure (which measures the annual excess return earned by an investor when they invest in the stock market over a risk-free rate) of **5.4%** which draws on recent academic evidence.[14]

The final element of our cost of equity calculation is our estimate of the small company risk premium. This proxies the additional return required for investing in small companies which have higher rates of inherent risk. Harrington et al. (2023) [15] uses 1990-2018 data from 17 European countries to estimate an 8.6% premium for companies with a capitalisation below

12 We assume a corporate tax rate of 25% for parent companies with at least 6 pharmacies. This rate is associated with profits >£250,000. We assume a corporate tax rate of 19% for parent companies with fewer than 6 pharmacies. This rate is associated with profits <£50,000.

13 2005-2010.

14 https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html Last updated January 2024.

15 https://rpc.cfainstitute.org/sites/default/files/-/media/documents/article/rf-brief/2023-international-valuation-guide-to-cost-of-capital.pdf

$51 million.[16] We therefore apply this premium to independents, and companies with up to 200 branches. For companies with over 200 branches we apply a premium of 1.8%, which in the Harrington et al. (2023) study corresponds to firms with a market capitalisation between $799 million and $1,392 million.

Although we do not have access to primary data on market capitalisation, we approximate it by multiplying the revenue of the 10 largest UK retail pharmacy companies[17] and prices to sales ratio[18] of the drug retail industry from secondary sources.

16 https://rpc.cfainstitute.org/sites/default/files/-/media/documents/article/rf-brief/2023-international-valuation-guide-to-cost-of-capital.pdf

17 https://www.statista.com/statistics/1450622/top-uk-pharmacy-chains-by-total-revenue/

18 https://eqvista.com/price-to-sales-ratio-by-industry/

Annex B – Data collection

This section provides additional detail on the process used to design and collect data from a sample of pharmacy contractors.

B.1 Data collected

Our dataset was compiled by combining IQVIA proprietary data and new primary data collected from a sample of pharmacy contractors.

IQVIA has meticulously processed, linked, and curated proprietary data in conjunction with public and open-source data to establish a dedicated database describing community pharmacy across England. Using this database allowed us to reduce the burden of new primary data collection on the sector.

In addition, new primary data was collected from pharmacy contractors in two phases. The first phase (bottom-up) was to collect detailed information from a smaller sample of contractors using an Excel tool which was emailed directly to contractors who had expressed an interest in participating in the research. Contractors uploaded their completed spreadsheet to a secure folder hosted by IQVIA or provided it via email directly to the project team. The second phase (top-down) used a subset of the bottom-up questions in an online survey so collect information from a larger sample of contractors.

B.2 Sector engagement

A sector engagement plan was developed with input from the Advisory Board and Working Group. This highlighted the importance of the involvement of all representative bodies for community pharmacy in England. Associations and representative bodies included Community Pharmacy England (CPE), National Pharmacy Association (NPA), Independent Pharmacy Association (IPA), Royal Pharmaceutical Society of Great Britain (RPSGB), Company Chemists' Association (CCA) and Numark.

The associations were briefed individually and collectively on the aims and objectives of the research and were encouraged to endorse and communicate the importance of the project to their membership. They also circulated an Expression of Interest form for completion by contractors who were keen to participate in the data collection phase.

The representative bodies have been regularly updated on the progress and uptake of the survey and supported the project through both data collection phases.

B.3 Development of the data collection tools

We developed the bottom-up tool to ensure the metrics collected covered those essential for the economic modelling and were relevant to the challenges faced by the pharmacy sector.

The tool was developed with input from the Working Group, which led to significant refinement of the number, nature and wording of questions asked. There was a focus on making the wording and explanations as clear as possible to contractors.

Due to the length and detailed nature of the tool, it was decided that contractors would be asked to complete the data in an Excel Spreadsheet and returned via secure upload to IQVIA. This had the benefit of allowing contractors to return to the task more easily, or to share the workload with a colleague(s).

For each question, guidance notes were provided with a hyperlink to the guidance from the question and answer sheet. This was to ensure consistency of understanding of the data required.

The bottom-up data collection tool was piloted with 4 parent companies. Feedback calls were undertaken with 3 companies, of which 2 returned a completed spreadsheet.

Following the pilot, and feedback from the Working Group, the number of questions was further reduced and additional guidance and instructions were added to aid completion.

The intention of the top-down data collection was to collect a subset of the data fields from the bottom-up collection with a target of collecting data from a larger sample of pharmacies. Following completion of the bottom-up data collection, the questions were reviewed with the working group and a subset selected for inclusion in the top-down survey.

The detail needed within financial data was reduced for the top-down survey to reduce the time needed for contractors to complete it. We retained some yes/ no questions about hidden and structural costs, as well as descriptive factors that were not available in the secondary dataset.

An online survey was used for the top-down collection for ease of completion. As a larger than expected sample had been achieved for larger pharmacy chains during the bottom-up collection, the top-down tool focussed on those contractors with a small number of pharmacies, and was designed to collect data for up to 10 pharmacies per parent company.

B.4 Distribution and sampling

NHS England provided pharmacy-level contact details for all pharmacies in England. This list of email addresses was used to distribute an Expression of Interest form to all independents, DSPs and groups with up to 75 pharmacies. Contractors were given the opportunity to respond 11 times over the data collection period.

The Expression of Interest form was also distributed by the professional bodies to their members.

All of those who completed the Expression of Interest form by 22nd August 2024 were sent the bottom-up data collection tool, accompanied by an FAQ document about the project and a pdf

version of the guidance pages of the tool for ease of printing. This sample was assessed to ensure reasonable coverage by region and by pharmacy type, but was not designed to be representative of the whole sector.

Larger companies (groups with 76-200 pharmacies, national chains and supermarkets) were contacted individually through IQVIA's existing network of contacts, with assistance from the CCA in identifying appropriate contacts in some instances. These companies were sent the same bottom-up data collection tool with the option of providing data at pharmacy level for all pharmacies in their group or for a sample of pharmacies.

For those which chose to provide bottom-up information for a sample, IQVIA randomly selected a list of pharmacies balanced by region, rurality and dispensing volume. We also ensured that pharmacies co-located with a GP practice, participating in the pharmacy access scheme and with different types of contract were included in the sample.

The same process continued for the top-down phase of data collection. Contractors who had completed an Expression of Interest by 7th October 2024, were sent the first invitations to the online survey as part of a soft launch. This allowed us to check the technical functionality of the system. New invitations to the online survey were sent twice a week thereafter to contractors who expressed an interest in participating. Links for the online survey were also sent to those who had signed up to the bottom-up phase but had not submitted any data.

B.5 Support for contractors

IQVIA and Frontier Economics hosted three drop-in sessions for contractors during the bottom-up data collection, and one during the top-down data collection. This were run in question and answer format, to give contractors the opportunity to ask questions about the project or specific questions about how to complete the tool or online survey. These were held in the evening, and at lunchtime to give more contractors the chance to attend around their business hours.

Contractors also had access to a freephone helpline and email address to ask questions. They were also able to opt out of participation at any time prior to submitting their data.

The majority of contractors completed their data submission without the need to contact IQVIA about the process. Four contractors attended the drop-in sessions, and there were three contacts to the helpline.

Outbound calls were made to all participating contractors, to encourage them to complete ahead of the deadline and to ask if they had any questions about the tool, survey or project.

Where questions were received, they were mainly around the background to the project and use of their data or how to attribute data by pharmacy if their data was aggregated. The helpline was also able to resend survey links to those who needed them. No questions were raised about the understanding of individual questions.

B.6 Response rate

Contractors who expressed an interest in participating in the project by 22nd August 2024, were sent an invitation to complete the bottom-up Excel tool. Those who expressed an interest after this date or who had not completed the bottom-up tool, were invited to complete the top-down online survey.

Table 4 Response rate

	Bottom-up	Top-down
Invited (parent companies)	113	373
Completed (parent companies)	36	82
Response rate	32%	22%

Source: Frontier Economics and IQVIA analysis of primary data collection

In order to maximise response rate the following activity was undertaken:

- Ten emails to the whole sector asking contractors to express their interest (over 60,000 contact points).
- Invitation emails were sent twice each week to reduce the lag between expressing an interest and invitation to participate. A total of 418 parent companies were invited.
- Reminder emails were sent weekly, before each drop-in session and before the deadline: 1,300 emails sent.
- Follow up phone calls to 259 contractors, with up to 3 attempts to contact each and voicemails or messages left with colleagues if possible.
- Prize draws were offered to participants in both stages: 5 x £250 Amazon vouchers for bottom-up participants and 10 x £200 Amazon vouchers for top-down participants.
- A deadline of 18th November 2024 was given to contractors, although the online survey was left open until 16th December 2024 to maximise the data collected.

Contractors were given the opportunity to opt-out at any stage, by contacting IQVIA directly or through the survey platform, and did not receive any further communication after doing so.

B.7 Quality Assurance

In the bottom-up tool, data validation was applied to the cells of the worksheet to limit the data type that could be entered (e.g. numerical value only) and where possible, a drop-down list of responses was provided.

On receipt of data from each parent company, several checks were undertaken, including:

- questions which were left blank;

- review of comments left against each question;
- sum of breakdowns was as expected (e.g. sum of the number of pharmacist and non-pharmacist staff compared to total, % turnover summed to 100%);
- values given were in expected ranges (e.g. FTE expected to be in the region of 37-40 hours);
- consistency between sections (e.g. hub-and-spoke participation, apparent double counting on centralised costs, non-NHS cost savings vs % of turnover).

Participants were contacted by email to check any anomalies and to fill in blank questions. Updates provided via email were included in the final dataset.

In the top-down survey, data validation was also applied to survey responses and non-numerical questions were asked as multiple choice or yes/no questions.

After all data had been collated, further checks were carried out at the end of each phase:

- duplicate responses;
- number of responses (and blanks) per question;
- range and distribution of responses given for a question.

Annex C – Sample Distribution

Financial data was not collected for pharmacies which were not trading for a full 12 months (for any reason) or that were operating under a Local Pharmaceutical Services (LPS) contract. For these reasons, 8 pharmacies were removed from the bottom up sample and 11 parent companies were removed from the top down sample. One duplicate was also removed from the top-down sample.

The distribution of the 1,166 pharmacies in our primary data collection is shown in the following tables. Some analyses were undertaken on a subset of this full sample, where respondents did not provide data on a particular question, or where outliers were excluded. The sample sizes used are described throughout the main report, and exclusion of outliers is explained in Annex D.2.

Table 5 Sample by region

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
North West	108	11%	23	17%
North East and Yorkshire	208	20%	28	20%
Midlands	144	14%	38	27%
East of England	63	6%	13	9%
London	139	14%	14	10%
South East	228	22%	13	9%
South West	137	13%	10	7%

Source: Frontier Economics and IQVIA analysis of primary data collection
Note: Region refers to standard NHS regions (https://www.england.nhs.uk/about/regional-area-teams/)

Table 6 Sample by location type

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
Urban	891	87%	118	85%
Rural	136	13%	21	15%

Source: *Frontier Economics and IQVIA analysis of primary data collection*

Note: *Community Pharmacy Universe: 12% rural. Rurality defined using ONS Lower Super Output Area classification https://www.ons.gov.uk/methodology/geography/geographicalproducts/ruralurbanclassifications/2011ruralurbanclassification Urban includes major conurbations, minor conurbations, cities and towns, and cities and towns in a sparse setting. Rural includes rural villages, rural towns and fringe areas, rural villages in a sparse setting and rural towns and fringe areas in a sparse setting.*

Table 7 Sample by deprivation decile (IMD)

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
1	144	14%	27	19%
2	130	13%	18	13%
3	121	12%	21	15%
4	121	12%	8	6%
5	111	11%	12	9%
6	92	9%	10	7%
7	72	7%	7	5%
8	77	7%	16	12%
9	79	8%	12	9%
10	80	8%	8	6%

Source: *Frontier Economics and IQVIA analysis of primary data collection*

Note: *1 is most deprived 10% of LSOAs*

Table 8 Sample by IMD health deprivation and disability decile

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
1	153	15%	27	19%
2	129	13%	24	17%
3	126	12%	16	12%
4	107	10%	16	12%
5	101	10%	10	7%
6	108	11%	8	6%
7	90	9%	5	4%
8	70	7%	14	10%
9	70	7%	8	6%
10	73	7%	11	8%

Source: Frontier Economics and IQVIA analysis of primary data collection
Note: 1 is most deprived 10% of LSOAs

Table 9 Sample by co-located with a GP practice

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
Yes	235	23%	41	29%
No	792	77%	98	71%

Source: Frontier Economics and IQVIA analysis of primary data collection
Note: Community Pharmacy Universe: 21% GP co-located

Table 10 Sample by participation in Pharmacy Access Scheme

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
Yes	140	14%	17	12%
No	887	86%	122	88%

Source: Frontier Economics and IQVIA analysis of primary data collection
Note: Community Pharmacy Universe: 12% participation

Table 11 Sample by contract type

	Bottom-up		Top-down	
Category	**Number of pharmacies**	**% of pharmacies**	**Number of pharmacies**	**% of pharmacies**
100-hr contract	14	1%	6	4%
Other	1013	99%	133	96%

Source: Frontier Economics and IQVIA analysis of primary data collection
Note: Community Pharmacy Universe: 8% 100hr contract

Annex D – Dataset calculations

D.1 Ensuring comparability of cost data provided by survey respondents

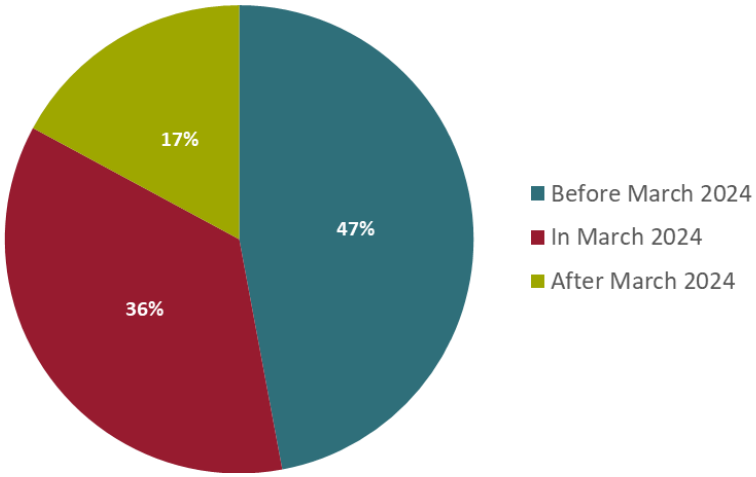
We have ensured that all data provided by survey respondents is as comparable as possible across respondents to the bottom-up and top-down surveys.

Recency of data provided by survey respondents

To boost sample sizes, we wanted to make both the bottom-up and top-down as easy to complete as possible and remove the need for respondents to make adjustments to their own data. We therefore did not mandate a specific time-period for which data should be provided for. Instead, we asked for data which related to each parent company's most recent complete accounting year which will vary. Therefore financial data that have been provided data will relate to different periods of time.

In Figure 3 we have presented a breakdown of financial year end dates reported by parent companies across both the bottom-up and top-down surveys. Approximately 47% of respondents provided data for a 12 month period which ended prior to March 2024. A further 36% of respondents provided data for a 12 month period which ended during March 2024. The remaining 17% of respondents provided data for a 12 month period which ended after March 2024.

Figure 3 Distribution of financial year end dates



Source: Frontier Economics and IQVIA analysis of primary data collection

Selection of base year

To account for differences in the reporting period across pharmacies, we adjusted survey responses to align with a financial year end of March 2024: our base year. This is close to

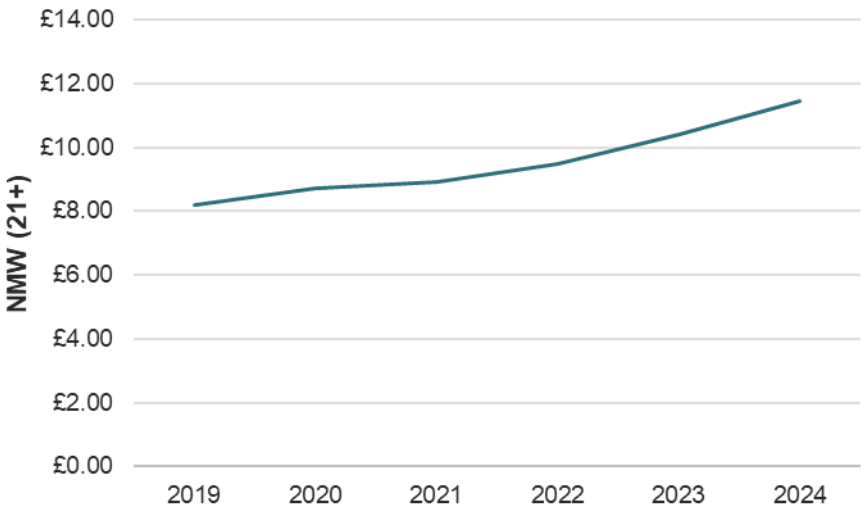
average financial year that we observe in our primary data (so minimises the need to substantially adjust costs). It also aligns with NHS and government year ends as well as rises in NLW.

Creation of cost indices for trajectory analysis

We implemented a different approach to uprate each category of costs.

Firstly, we used trends in the National Living Wage (NLW) to proxy increases in staff costs[19] over time.

Figure 4 Nominal trend in NLW



Source: *https://assets.publishing.service.gov.uk/media/66043ec1f9ab410011eea40f/Data_tables_for_the_National_Minimum_Wage_in_2024.xlsx*

Note: *These rates are for the NLW (for those aged 21 and over)*

The majority of pharmacies will employ staff on or around the NLW[20] and increases in the NLW will also have a wider impact on other staff costs. Previous research has shown that increases in minimum wages indirectly can lead to increases in higher paid workers as well.[21] We therefore uprated the staff costs elements in 2024/25 and 2025/26 by known future increases in the NLW (of 9.8% and 6.7% respectively) and uprating staff cost elements by 6% per annum

19 Including permanent staff costs such as salaries, national insurance, company pension contributions, bonuses and other benefits and payments to temporary / locum staff

20 https://cpe.org.uk/our-news/community-pharmacy-england-calls-for-financial-support-following-increase-in-the-national-living-wage/

21 https://assets.publishing.service.gov.uk/media/5df7783fe5274a08dbcdfde9/The_impact_of_minimum_wage_upratings_on_wage_growth_and_the_wage_distribution.pdf

in future years (this is equal to the average annual rise in NLW observed over the period 2016/17-2025/26).[22] [23]

We uprated the building costs elements by 3.2% per annum (this is equal to the Office for Budgetary Responsibility's (OBR) average annual projected change in the Retail Price Index (RPI) over the period 2024-2030).[24] These forecasts were chosen as many pharmacy leases will calculate uplift to rent based on RPI.

We uprated other costs elements by 2.2% per annum (this is equal to an average of OBR's annual GDP deflator forecasts from 2024 onwards (OBR predicts higher inflation in 2025 before rates converge back towards a long run average of 2% per year).[25]

This same method also applies to 'other' hub costs and centralised 'other' costs.

Aggregation of indices for trajectory analysis

Bottom-up data responses broke down operating costs into three categories: staff, buildings and other costs, each at the pharmacy level, centralised level and hub level. A separate weighted average of the staff, buildings and other cost indices was calculated at each level of costs (pharmacy, centralised and hub level) for each month which reflected the above cost shares.[26] The appropriate weighted averages were then applied to each pharmacy's operating costs (including centralised costs and hub costs if relevant for that pharmacy).

This same process was also used to uprate hidden costs, unmet structural costs and WACC.

Turnover data has not been uprated as the 'global sum' has been fixed in nominal terms for several years.

Likewise asset values have not been adjusted. Respondents were asked to provide replacement asset values which corresponded to the time at which they filled in the survey. As this was reasonably close to end-March 2024 for all respondents, it was not clear whether any further adjustment would increase accuracy substantially.

22 https://commonslibrary.parliament.uk/research-briefings/cbp-7735/ The 2025 NLW has already been announced and will be £12.21.

23 We also separately accounted for a forthcoming rise in Employer National Insurance Contributions which will impact the sector from 2025/26 onwards (accounting for an estimated net increase in staffing costs of approximately £50 million per annum in 2025/26). This additional adjustment was based on modelling carried out by CPE and shared with the project team.

24 These projects were made in October 2024 https://obr.uk/efo/economic-and-fiscal-outlook-october-2024/

25 https://obr.uk/forecasts-in-depth/the-economy-forecast/inflation/ https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-october-2024-autumn-budget-2024

26 An average breakdown across these three categories is used for every pharmacy as detailed cost breakdowns were not included as part of the top-down survey.

D.2 Calculation of summary FEC results, exclusion of outliers and imputation of missing values

Table 1 in the main report, which draws on tables 5 and 6, provides our estimates of the FEC of delivering NHS pharmaceutical services. Table 5, in turn, draws upon tables 11, 15, 19, 20, 24 and 25, which describe the costs of separate components of this FEC. For example, table 11 describes the pharmacy-level operating costs, which is a single row in tables 5 and 6.

These component-level tables report the raw data collected through our primary data collection, after excluding outliers.[27]

The values reported in the summary-level tables differ from the values reported in the component-level tables. This is because:

- the summary-level tables provide estimates across all the pharmacies included in our primary data sample (see Annex C), whereas the component-level tables describe the data provided by the subset of our full sample which provided data for that particular component of costs;[28] and
- where we did not have data for a particular pharmacy, for a particular component of costs, we imputed these missing values based upon those pharmacies for which we did have data (described more below), and the impact of this imputation is reflected in tables 5 and 6, but not in tables 11, 15, 19, 20, 24 and 25.

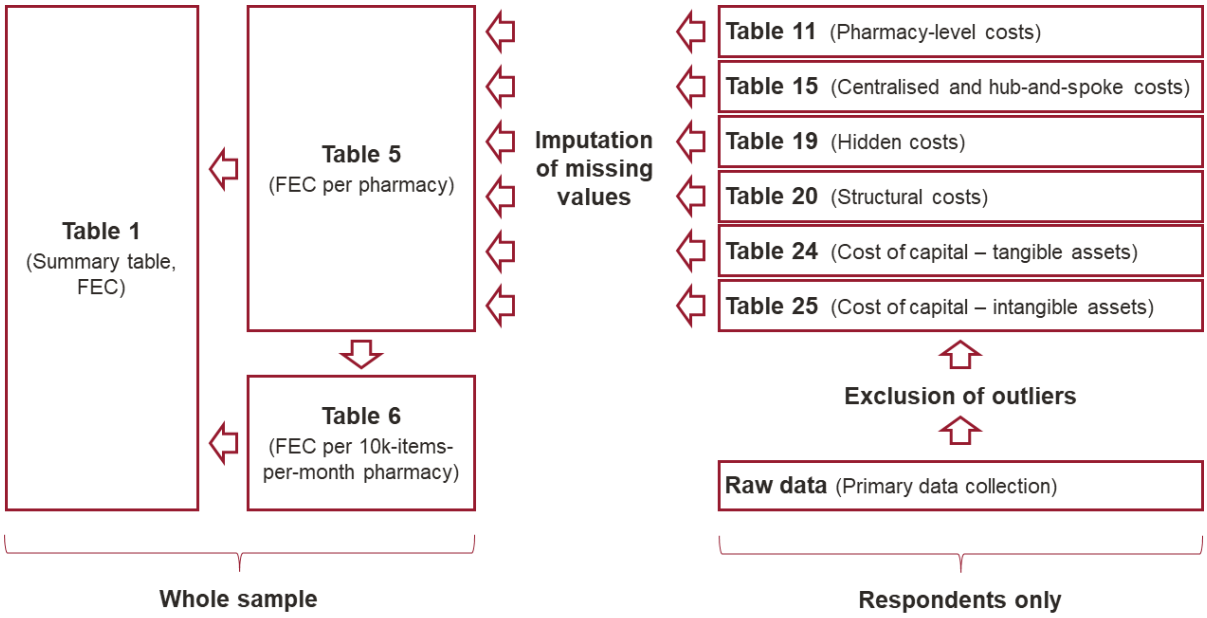
This imputation of missing values was necessary to enable us to estimate the full economic cost (including all components) across our sample and to extrapolate this to the sector level across England.

The relationship between the summary tables, component tables and raw data is shown in Figure 5.

27 Tables 24 and 25 contain our estimates of the cost of capital, drawing upon the raw data described in tables 21 and 22, with additional calculations which are described in Section 6.5.

28 After the exclusion of outliers.

Figure 5 Full economic cost estimates, relationship between summary tables and component-level tables



Source: Frontier Economics and IQVIA

Exclusion of outliers

To minimise the impact of potentially erroneous values on our analysis, we excluded outliers.

For each cost component, values were first converted into per item terms. Outliers were defined then as any value more than three standard deviations above or below the within-archetype mean of this per item cost measure.[29]

No further analysis was undertaken using these outliers.

The impact of this outlier exclusion process is shown in the following table.

[29] For this process, hidden and structural costs were combined. This was informed by discussions with the Working Group, which suggested that these would be harder for pharmacy contractors to estimate than other areas. These were also combined in the survey questions in the top-down data collection.

Table 12 Exclusion of outliers

FEC component	Number of pharmacy outliers excluded	% of sample
Pharmacy-level costs	8	0.8%
Centralised (inc. hub-and-spoke) costs	0	0.0%
Hidden and structural costs	6	1.1%
Cost of capital (tangible assets)	20	3.9%
Cost of capital (intangible assets)	9	0.8%

Source: Frontier Economics and IQVIA analysis of primary data collection
Note: Sample refers to the number of pharmacies before imputation.

Imputation of missing values

The approach to imputation of missing values depended upon the precise questions included (and responses received) in our primary data collection. This differed slightly between the top-down and bottom-up data collection, and between FEC components. In general, imputation was calculated on a per item basis, within archetypes. The imputation was undertaken for each FEC component as follows.

Pharmacy-level, centralised and hub-and-spoke costs

Respondents in both bottom-up and top-down were asked to provide data on the size of pharmacy-level, centralised and hub-and-spoke costs, where relevant (see Annex I and Annex J).

Using the primary data provided, we calculated the average for each of these three levels of cost, per item, within each archetype e.g. the average pharmacy-level costs, per item, for single independents.

For any respondents who did not provide data for a particular type of cost (e.g. pharmacy-level), we imputed their costs by multiplying the above average (per item, within archetype) by the number of items dispensed by that pharmacy (on which we had data for all pharmacies).

Where respondents reported that they had zero costs, this value was not replaced.

Hidden and structural costs

Bottom-up

Respondents in bottom-up were asked whether they had hidden costs, and if so the size of these costs, and whether they had structural costs, and if so the size of these costs.

Using the primary data provided, we calculated two averages for each of these two categories of cost, per item, within each archetype:

1. the average of those who reported some costs e.g. the average hidden costs (for those with hidden costs), per item, for single independents.
2. the average across all respondents, including those who reported some costs and those who reported no costs e.g. the average hidden costs (for all pharmacies), per item, for single independents.

These averages were estimated within each archetype, separately for hidden costs and structural costs.

For any respondents who reported that they did not have hidden costs, these costs were set to zero. Likewise for respondents who reported that they did not have structural costs.

For any respondents who reported that they did have hidden costs, but did not provide data on the size of these costs, we imputed their costs by multiplying the average from point (1) above (per item, within archetype) by the number of items dispensed by that pharmacy. Likewise for respondents who reported that they did have structural costs, but did not provide data on the size of these costs.

For any respondents who did not report whether they had hidden costs, we imputed their costs by multiplying the average from point (2) above (per item, within archetype) by the number of items dispensed by that pharmacy. Likewise for respondents who did not report whether they had structural costs.

Top-down

Respondents in top-down were asked whether they had various hidden and structural costs, but were not asked about the size of these costs.

For any respondents who reported no hidden or structural costs, these costs were set to zero.

For any respondents who reported some hidden or structural costs, we imputed their costs based on an average of pharmacies in bottom-up who reported hidden and structural costs, aggregated together (per item, within archetype). This is equivalent to the per item average described in point (1) in the subsection above.

For any respondents who did not report whether or not they faced hidden or structural costs, we applied the overall average from bottom-up for all pharmacies, i.e. including both those that faced hidden or structural costs as well as those that did not. This is equivalent to the per item average described in point (2) in the subsection above.

Costs of capital

Bottom-up

Respondents to the bottom-up survey were asked to report pharmacy-level, centralised, and hub-related assets separately. Within each of these levels, three types of assets were reported: stock; fixed asset replacement costs; and cash, debtors, and other assets.

For pharmacy-level assets, where any of the three asset classes were not reported by respondents, we treated the data as incomplete and imputed an estimated value for pharmacy-level assets according to the archetype-specific average pharmacy-level assets per item. This average was based on those pharmacies that provided complete responses to these questions.

For centralised assets, where respondents answered zero or did not provide information regarding a specific asset type, it was assumed that the pharmacy does not possess the assets in question. In other words, we did not assume the presence of centralised assets for pharmacies that had not reported this.

For hub assets, where respondents had indicated that at least some of the pharmacy's activity was undertaken by a hub, we imputed blank responses by applying the archetype-specific per item average of hub assets. In this case, the number of items used in the per item average refers to the total number of prescriptions for each pharmacy that are fulfilled by the hub, rather than the overall number of items dispensed by the pharmacy in question.

Following the imputation of an asset base, centralised and hub assets were allocated to each individual pharmacy using each pharmacy's respective share of the items dispensed by each parent company (for centralised) and/or hub. Tangible costs of capital were then estimated by applying the archetype-specific WACC rate.

For intangible costs, which were assumed to stem from (sustainable levels of) NHS funding, no imputation was necessary. There were no pharmacies for which our NHS funding measure was not available.

Top-down

Respondents to the top down survey were only asked for overall parent company assets. We then allocated these to each constituent pharmacy according to the pharmacy's share of items dispensed as a proportion of the company's total. Where respondents did not report this asset base, we took the pharmacy-level, archetype-specific per item average as described in the subsection above and scaled this up according to the number of items dispensed by the pharmacy in question.

Data coverage of our funding measure was comprehensive. Imputation was therefore unnecessary for estimation of intangible costs of capital.

Annex E – Additional pharmacy and cost analysis

E.1 Pharmacy activity, staff and operations

Activity

Table 13 Items dispensed, per pharmacy

	Singles (1)	Small (2-5)	Medium (6-200)	Large (201+)
Number of pharmacies (parent companies)	44 (44)	77 (32)	384 (16)	654 (4)
Mean	100,668	118,414	115,848	89,354
Median	85,251	85,251	85,251	85,251
IQR	65k to 124k	77k to 153k	80k to 140k	56k to 116k

Source: Frontier Economics and IQVIA analysis of primary data collection and NHS BSA data

Staff

Table 14 Staff, per pharmacy

Mean (IQR)	Singles (1)	Small (2-5)	Medium (6-200)	Large (201+)
Number of pharmacies (parent companies)	13 (13)	20 (8)	337 (9)	654 (4)
Pharmacists	1.4 (1.0 to 1.4)	1.2 (1.0 to 1.0)	1.2 (1.0 to 1.4)	1.4 (1.2 to 1.4)
Non-pharmacists	5.0 (2.0 to 4.6)	4.8 (2.8 to 7.0)	5.9 (3.9 to 7.3)	3.5 (1.2 to 4.7)

Source: Frontier Economics and IQVIA analysis of primary data collection

Operations

Table 15 Year of last major pharmacy refit

	% of pharmacies
Did not report year of last refit	79.0%
Reported year of last refit	21.0%
Year of last re-fit	
- 2020 to 2024	48.6%
- 2015 to 2019	6.5%
- 2010 to 2014	39.6%
- Before 2010	4.9%

Source: Frontier and IQVIA analysis of primary data collection
Note: Figures for year of last refit are percentages of those who reported

Annex F – Population need analysis

We have explored whether areas with higher population need are served by more/fewer pharmacies, and whether recent openings/closures of pharmacies have occurred more in areas with higher population need.

It is important to note that this is not a complete analysis of population need, or an assessment of the ability of community pharmacy to meet this need. A range of factors will determine the provision, accessibility and quality of services in any given area. However, this analysis provides an indication of how provision and cost varies according to one driver of population need.

We use the total Index of Multiple Deprivation (IMD) as a proxy for population need. It provides an overall measure of the level of deprivation for each small area (LSOA) in England and is based on a weighted average of seven components including 'health deprivation and disability'. The first decile includes the 10% most deprived areas in England, the second those areas in the 10-20% most deprived group, and so on.

Our results are shown in the following table.

Table 16 Pharmacies, closures and openings by IMD decile

IMD Decile	% of pharmacies	Closures in last 3 years	Openings in last 3 years
1 (most deprived)	15.7%	473	334
2	13.0%	308	217
3	12.1%	320	239
4	10.9%	269	207
5	9.8%	234	162
6	9.0%	217	163
7	8.0%	216	156
8	7.6%	196	137
9	7.4%	192	164
10 (least deprived)	6.5%	156	119
All deciles	**100%**	**2,581**	**1,898**

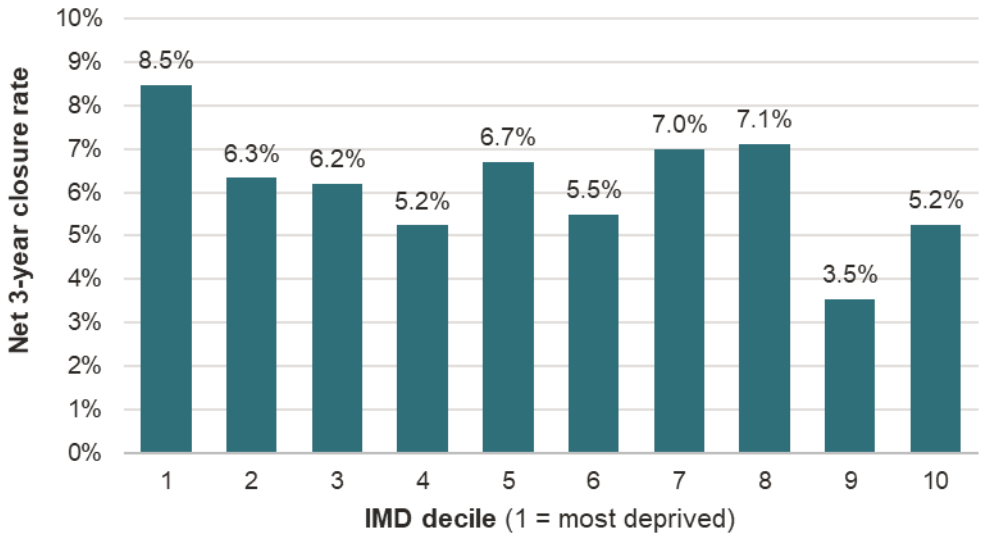
Source: *Frontier Economics and IQVIA analysis of 13,140 pharmacies.*

Note: *Based on 3 years from Sep 2021 to Sep 2024 (therefore total sample is higher than number of pharmacies that would have been open at any one time); % of pharmacies based on those open as of Sep 2024*

The above table shows that community pharmacies are disproportionately located in more deprived areas. This is in line with the expectation that such areas are likely to have the greatest need for access to their services. Across all IMD deciles, however, closures of community pharmacies have outpaced openings; the following figure illustrates how this trend varies by deprivation level. It is important to note that a change in pharmacy ownership can create both a closure and opening in the data. Therefore, many of the apparent new openings recorded in the data are actually changes of ownership.

The following figure shows, after accounting for the number of pharmacies in each IMD decile, net closures (i.e. closures less openings across the three-year period) took place at a faster rate in the most deprived areas.

Figure 6 Net closure rate by IMD decile, Sep 2021 – Sep 2024



Source: *Frontier Economics and IQVIA analysis of 13,140 pharmacies*

Note: *Net closure rate is defined as (total closures – total openings) divided by the average number of open pharmacies in each decile across the period.*

Drawing upon our analysis of full economic cost, we have explored whether costs are higher/lower for pharmacies located in more deprived areas, and whether pharmacies in these locations appear to be more or less sustainable. Our results are shown in the following table.

Table 17 FEC per 10,000-items-per-month pharmacy and % of pharmacies with FEC > funding, by IMD decile

IMD Decile	FEC, per 10,000-items-per-month pharmacy, median	% of pharmacies with FEC > funding
1 (most deprived)	£575k	100.0%
2	£592k	100.0%
3	£566k	99.3%
4	£572k	100.0%
5	£568k	100.0%
6	£591k	99.0%
7	£556k	98.7%
8	£552k	100.0%
9	£570k	100.0%
10 (least deprived)	£576k	98.9%

Source: Frontier Economics and IQVIA analysis of primary data collection

These results indicate that the cost of delivering NHS pharmaceutical services does not vary systematically between more and less deprived locations. The share of pharmacies with a full economic cost greater than funding is over 98% for all deciles.

Annex G – Analysis of DSPs

There is significant uncertainty associated with our DSP results given the relatively small number of DSPs who took part in our primary data collection. In addition, we are aware that within the DSP archetype as a whole there is significant variation in terms of size and scale of operations. This diversity implies that our extrapolation of our sample to England as a whole for this archetype in particular is subject to greater uncertainty than is the case for other archetypes. All results in this section should therefore be treated with caution.

DSP results have generally been excluded from the main report for this reason. However, it is essential that DSP costs are included in our extrapolation of costs from our sample to England as a whole. This extrapolation relies on the average reported DSP costs from our sample in line with the approach used for other archetypes.

The small DSP sample size also limits that volume and nature of DSP results that we include without compromising the confidentiality of individual DSP respondents.

Below we have provided some additional detail on the breakdown of DSP costs.

G.1 Costs

We have estimated the full economic cost of DSPs delivering NHS pharmaceutical services. These cost estimates include:

- pharmacy-level costs;
- centralised and hub costs, where relevant, allocated to pharmacy level as described above;
- hidden and structural costs (at pharmacy, centralised and hub level), where relevant, allocated to pharmacy level;
- the cost of capital (i.e. the rate of return which is required by funders when debt or equity is employed in the pharmacy business);
- a reduction to these total costs (which relate to in-scope NHS services and also to beyond-scope services) for the proportion which would be saved if no beyond-scope services were carried out.

The breakdown of these costs are shown in the following table.

Table 18 Full economic cost, per pharmacy, DSPs[30]

Full economic cost category	DSP costs (% of full economic cost)
Pharmacy-level costs	29%
Centralised (inc. hub-and-spoke) costs	33%
Hidden and structural costs	12%
Cost of capital (tangible assets)	14%
Cost of capital (intangible assets)	12%

Source: Frontier Economics and IQVIA analysis of primary data collection

We collected data on pharmacy-level costs of delivering NHS pharmaceutical services.

The following table shows the breakdown of these pharmacy-level costs between staff, building and other costs for DSPs.

Table 19 Pharmacy-level costs, breakdown by cost type, excluding stock purchases, DSPs[31]

	DSPs
Staff costs	46%
Buildings costs	2%
Other costs	52%

Source: Frontier Economics and IQVIA analysis of primary data collection

We also collected data on the proportion of these total costs which would be saved if the pharmacy carried out no beyond-scope local services or beyond-scope private and other services.

See Annex A for further information on these definitions. The estimate of total costs that would be saved are shown in the following table.

[30] This is an unweighted average.

[31] This is a weighted average.

Table 20 Pharmacy-level costs saved if no beyond-scope activity, DSPs[32]

	DSPs
Sample size	7
% of costs saved	3%
% of costs not saved	97%

Source: Frontier Economics and IQVIA analysis of primary data collection

G.2 Sustainability

We estimate that 100% of DSPs have funding which is lower than full economic cost. Given the relatively small sample size and the potential for misinterpretation of results we have not presented the mean funding gap (funding minus FEC) per DSP. We have instead presented the median which itself will be somewhat illustrative given the diversity of firms (in terms of scale of operations and scope of operations) within the DSP archetype.

Table 21 Funding minus full economic cost, per pharmacy, DSPs

	DSPs
Number of pharmacies (parent companies)	7 (6)
Median funding gap per 10k items dispensed	-£234k
% of pharmacies with full economic cost > funding	100%

Source: Frontier Economics and IQVIA analysis of primary data collection

[32] This is an unweighted average.

Annex H – Econometric analysis

H.1 Modelling approach

We conducted an econometric analysis using an ordinary least squares (OLS) regression to identify the main drivers of full economic cost at the pharmacy level. The results of this analysis are presented in Table 30 of the main report. Our sample includes 1,159 pharmacies from 96 companies, and the regressors included were:

- **Items dispensed and items dispensed squared**[33]: we including these two variables to test the impact of size and the existence of economies of scale. While costs should rise with pharmacy size (items dispensed), the squared term captures whether cost per item decreases or increases as volume grows, indicating economies or diseconomies of scale.
- **Number of pharmacies per company**: we included a variable on the number of pharmacies per company, using our archetypes.[34] Our aim was to identify if the cost per item of similar pharmacies is lower (or higher) for those that are part of a larger chain.
- **Pharmacy characteristics**: we included several characteristics that could affect pharmacies' costs: whether they are in an urban or rural area, have a co-located GP practice, are part of the Pharmacy Access Scheme, the region of England in which they operate, their service mix, and the socioeconomic deprivation of the area they operate in, measured by the Index of Multiple Deprivation (IMD).

Our model selection was based on standard, best-practice econometric approaches. We included in our analysis checks for heteroskedasticity and multicollinearity.

Model selection:

- We used a linear OLS model as full economic cost is a continuous variable with no observations at its lower bound (zero). Therefore, logistic, count, or censored models are not appropriate.
- We also confirmed through a graphical diagnosis check that the mean of the errors of our model remained around zero for different fitted values of full economic cost – an indication that a linear model captures the relationship between the independent and dependent variables in our sample.

[33] Other technical approaches to exploring economies of scale in more detail were beyond the scope of this study

[34] This was based on the primary data provided by contractors

Heteroskedasticity:

- Heteroskedasticity occurs when the variance of the model's residuals differs depending on the values of the explanatory variables. This can distort the estimation of standard errors under an OLS approach, which assumes that residual variance remains constant.

- We detected the potential presence of heteroskedasticity through the commonly-used Breusch-Pagan test, as well as through a scale-location graphical check – both indicating that the variance of our residuals increased for larger fitted values of full economic cost. We thus recalculated our regression results using 'robust standard errors,' which are adjusted to account for the uneven variance observed in our sample.

Multicollinearity:

- Multicollinearity occurs when several independent variables in a model are strongly correlated, potentially distorting the effect of each of the correlated variables. To detect it, we use the 'Variance Inflation Factor' (VIF), a commonly applied measure indicating how much the inclusion of each variable increases the model's variance.

- In our selected model, all variables have VIF values below the commonly used threshold of 5 that signals significant correlation. This suggests that our chosen specification is not substantively influenced by multicollinearity.

Variable selection:

- Including a large number of variables in our model, even after excluding those that are flagged for multicollinearity, would be statistically problematic. This reduces the number of data points per estimated parameter, increasing the variance of the estimates and making our estimations less reliable.

- To explore whether our main specification contained too many variables, we compared its performance on the Akaike Information Criterion (AIC)[35] and Bayesian Information Criterion (BIC)[36] with more parsimonious specifications. These are metrics used to determine the optimal model complexity by balancing the improvement in data fitting from including an additional variable to the penalty from adding the additional parameter. Minimising the AIC and BIC indicates that a specification strikes the right balance in this trade-off.

35 Akaike, Hirotugu. "Akaike's information criterion." International encyclopaedia of statistical science (2011): 25-25. https://cir.nii.ac.jp/crid/1360574094963670144

36 Neath, Andrew A., and Joseph E. Cavanaugh. "The Bayesian information criterion: background, derivation, and applications." Wiley Interdisciplinary Reviews: Computational Statistics 4.2 (2012): 199-203. https://wires.onlinelibrary.wiley.com/doi/full/10.1002/wics.199

- The main specification included in the report performed better in the AIC and BIC than other specifications we tested (including omitting region as a factor variable and omitting the second-degree polynomial term on items dispensed).

H.2 Alternative approach – regression on sustainability

To complement our analysis on full economic cost we also explored how the same cost drivers relate to pharmacies' financial sustainability (i.e. funding received minus full economic cost). We used a similar OLS approach and conducted the same diagnostic checks for model and variable selection.

In our preferred specification, the only difference from the regression included in Table 30 of the main report is that we omit the squared term for a pharmacy's dispensed items.

Table 22 Regression analysis of sustainability on cost drivers

Cost driver	Coefficient (£)	Standard error (£)	P-value and significance
Intercept	- 61,044.2	27,118.6	**0.025****
Items dispensed	-1.2	0.2	**<0.001*****
GP co-located	-11,872.1	10,003.8	0.236
Urban	-10,183.3	8,536.6	0.233
Pharmacy Access Scheme	30,089.3	8,637.7	**<0.001*****
IMD index decide	1,452.0	1,025.6	0.157
Service mix	- 9,409.2	76,899.5	0.903
Singles	594.8	20109.2	0.976
2-5 pharmacies	-61,078.9	12,942.9	**<0.001*****
6-200 pharmacies	-46,931.6	6,619.9	**<0.001*****
North West	-34,809.2	12,060.9	**0.004*****
South East	-31,679.8	11,669.3	**0.007*****

Source: *Frontier Economics and IQVIA analysis of primary data collection and IQVIA proprietary data.*

Note: *Sample 1,159 pharmacies from 96 parent companies. R-squared of 0.455. IMD decile 1 is most deprived, 10 is least deprived. The notation *** refers to a coefficient being statistically significant at 1% level, ** at 5% level, and * at 10% level.*

The results are broadly in line with the ones on full economic cost, as most the variables that are related to lower full economic cost are associated with higher sustainability, and vice versa:

- Each additional item dispensed is associated with a £1.20 decrease in financial sustainability. Since most pharmacies in our sample are already unsustainable, dispensing more items naturally leads to a greater degree of unsustainability. However, this relationship should not be interpreted as evidence of economies or diseconomies of scale.
- Being part of the Pharmacy Access Scheme (PhAS) is associated with a £30,089 higher sustainability.
- Having a GP co-located practice is not significantly related to sustainability. This contrasts to its positive and significant coefficient on the full economic cost regression.
- Being a pharmacy in a parent company with 2-5 and 6-200 pharmacies is associated with a £61,079 and £46,932 lower sustainability, respectively.
- The same two regions that were associated with a higher full economic cost are associated with lower sustainability: North West with £34,809, and South East with £31,680.

Annex I – Bottom-up survey

Question number	Question	Answer type
A1	Type of company	Single choice of archetype
A2	Company registration number	Free text
A3	If the parent company has a Head Office, please provide the postcode	Free text
A4	Number of pharmacies within parent company (at the end of the last complete accounting year)	Single number for parent company
A5	Number of pharmacies opened/acquired in the last complete accounting year	Single number for parent company
A6	Number of pharmacies closed in the last complete accounting year	Single number for parent company
A7	Number of pharmacies sold or consolidated in the last complete accounting year	Single number for parent company
A8	Does the company maintain separate pharmacy level accounts for management purposes?	Yes / No
A9	Does the company incur centralised support costs that are not allocated back to pharmacy level accounts?	Yes / No
A10	Does the company incur centralised support costs that have been allocated to just one pharmacy level accounts for internal management convenience?	Yes / No
A11	Does the company have any pharmacies outside of England?	Yes / No
A12	Does the company operate a Hub and Spoke or centralised dispensing model?	Yes / No
A13	Does the company have other businesses / turnover outside of operating your own pharmacies (e.g. wholesale selling to pharmacies outside of the company, contracts with other organisations)?	Yes / No
A14	Is the company part of a wider financial group, and if so does the company share centralised support costs with other companies within that group?	Single choice: Wider financial group with shared costs, Wider financial group with no shared costs, Not part of wider financial group
A15	Are any costs picked up by other related companies, and not recharged back to your pharmacy company?	Yes / No
A16	Are any other forms of financial support provided by the owner(s)?	Yes / No
A17	If yes, which forms of financial support provided by the owner(s)?	Single choice: Personal loans, Deferring or not drawing salary, Not drawing dividends, Not

		charging rent on buildings owned, Other (please specify)
A18	On what date did your last complete accounting year end?	Date dd/mm/yyyy
A19	Did your most recent accounting year cover 12 months?	Yes / No
A20	Have cost pressures over the last 3 years led to a significant change in your management of staff?	Yes / No
A21	Have cost pressures over the last 3 years led to a significant change in your operations?	Yes / No
A22	Have cost pressures over the last 3 years led to a significant change in your ability to finance the business?	Yes / No
A23	Have cost pressures over the last 3 years led to a significant change in your property management?	Yes / No
B1	Pharmacy name	Free text for each pharmacy
B2	ODS code or F code	Free text for each pharmacy
B3	Pharmacy postcode	Free text for each pharmacy
B4	Is the pharmacy embedded in a GP practice?	Yes / No
B5	Ownership status of pharmacy building	Choice for each pharmacy: Mortgaged, Owned outright, or Leased / rented
B6	Was this pharmacy trading for the full 12 months for which data is being provided for? (If no, no further information collected for that pharmacy).	Yes / No for each pharmacy
B7	Contract type (If LPS, no further information collected for that pharmacy).	Choice for each pharmacy: LPS, Standard hours, 100 hour, Distance selling pharmacy (DSP)
B8	Does this pharmacy participate in hub and spoke or centralised dispensing?	Yes / No for each pharmacy
B9	What proportion (as a percentage) of total prescription volume is sent to the hub?	Number entry for each pharmacy
B10	Does this pharmacy use in-pharmacy automation for original pack dispensing?	Yes / No for each pharmacy
B11	Does this pharmacy use in-pharmacy automation for MDS dispensing?	Yes / No for each pharmacy
B12	What is the most common period of treatment for NHS repeat prescriptions dispensed from your pharmacy?	Choice for each pharmacy: 7 / 28 / 56 / 84 days?

B13	For the last complete accounting year, did the pharmacy offer any beyond scope local services?	Yes / No for each pharmacy
B14	For the last complete accounting year, did the pharmacy offer any beyond scope private or other services?	Yes / No for each pharmacy
B15	How many hours per week is classed as a Full Time Equivalent in this pharmacy?	Number entry for each pharmacy
B16	Total number of regular staff (Full Time Equivalent) Number of pharmacists (FTE) Number of non-pharmacist staff (FTE)	Number entry for each pharmacy for total and each category
B17	What proportion of staff costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%) What proportion of pharmacist costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%) What proportion of non-pharmacist staff costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Number entry for each pharmacy for total and each category
C1	Total (ex-VAT) turnover per pharmacy for the last complete accounting year (including all fees, BSA drug reimbursement, private / other services) (£)	Number entry for each pharmacy
C2	What proportion (%) of the above total is from in-scope NHS services?	Number entry for each pharmacy
C3	What proportion (%) of the above total is from beyond-scope local services?	Number entry for each pharmacy
C4	What proportion (%) of the above total is from beyond-scope private and other services?	Calculated: 100%-sum of C2 and C3
C5	Total (ex-VAT) turnover per pharmacy for the last complete accounting year (including fees, private / other services) EXCLUDING BSA drug reimbursement (£)	Number entry for each pharmacy
C6	If you use EBITDA as a measure of profitability at pharmacy level, please provide the total EBITDA (per pharmacy) for the last complete accounting year.	Number entry for each pharmacy
D1	Total pharmacy specific annual operating costs for the last complete accounting year. Excluding cost of stock purchases (£)	Number entry for each pharmacy
D2	What proportion of these total costs are accounted for by staff costs (including permanent staff costs such as salaries, national insurance, company pension contributions, bonuses and other benefits and payments to temporary / locum staff)? (%)	Number entry for each pharmacy
D3	What proportion of these total costs are accounted for by building costs (including mortgage /rental payments, rates, insurance, utilities, repairs and maintenance)? (%)	Number entry for each pharmacy
D4	Other annual operating costs (not allocated to above categories)?	Calculated: 100%-sum of D2 and D3

D5	What proportion of your total annual costs would be saved if the pharmacy did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Number entry for each pharmacy
D6	Does your answer to D1 include any debt interest costs or corporate taxes?	Yes / No for each pharmacy
D6a	If yes, please state how much these were. (£)	Number entry for each pharmacy
D7	Does your answer to D1 include any depreciation charges or amortisation?	Yes / No for each pharmacy
D7a	If yes, please state how much these were. (£)	Number entry for each pharmacy
D8	Do you have a way to estimate the shrinkage cost of any stock that has to be written off as wastage or lost to theft?	Yes / No for each pharmacy
D9	If yes, what is your estimate of shrinkage cost for this pharmacy (over the last complete accounting year)? (£)	Number entry for each pharmacy
D10	Are there any additional costs incurred through the pharmacy business which are not charged fully in the pharmacy accounts and will not be captured in your total cost estimate above?	Yes / No for each pharmacy
D11	If yes, please give an estimate of the annual value of these hidden costs. (£)	Number entry for each pharmacy
D12	Are there any costs that you are not incurring or important expenditure that you are putting off due to financial constraints, and which are therefore not captured in your total cost estimate above?	Yes / No for each pharmacy
D13	If yes, please give an estimate of the annual value of these structural costs which were not possible to meet in the last complete accounting year. (£)	Number entry for each pharmacy
D14	Have there been any unfavourable post balance sheet events for this pharmacy since the end of the most recent complete accounting year?	Yes / No for each pharmacy
D15	Do you expect to incur a dilapidation charge at the end of your lease?	Yes / No for each pharmacy
D16	If yes, please give an estimate of the cost of the dilapidation at the end of your lease.	Number entry for each pharmacy
D17	If you wanted to close this pharmacy, would the costs incurred in doing so stop you from closing (e.g. redundancy costs, lease commitments, loss of asset intended to support pension)?	Yes / No / Not applicable for each pharmacy
E1	Does the company operate a Hub and Spoke or centralised dispensing model? If No, please skip this section.	Pre-populated from question A12
E2	What is the primary role of the hub(s)?	Single choice: MDS / OP Dispensing / Both

E3	Is the dispensed medication sent back to the originator pharmacy for the patient to collect or delivered directly to the patients address (or both)?	Single choice: Delivered to pharmacy for patient to collect / Delivered to the patient's address / Both
E4	Number of scripts assembled in hub(s) on average per week in the last complete accounting year	Single number for parent company
E5	How many pharmacies are served by hub and spoke on average over last complete accounting year?	Single number for parent company
E6	Total number of regular staff (Full Time Equivalent) Number of pharmacists (FTE) Number of non-pharmacist staff (FTE)	Number entry for total and each category
E7	What proportion of hub(s) staff costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%) What proportion of pharmacist costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%) What proportion of non-pharmacist staff costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Number entry for total and each category
E8	Total pharmacy hub(s) operating costs for the last complete accounting year. Excluding cost of goods sold (£)	Single number for parent company
E9	What proportion of total hub(s) costs are accounted for by staff costs (including permanent staff costs such as salaries, national insurance, company pension contributions, bonuses and other benefits and payments to temporary / locum staff)? (%)	Single number for parent company
E10	What proportion of total hub(s) costs are accounted for by building costs (including mortgage /rental payments, rates, insurance, utilities, repairs and maintenance)? (%)	Single number for parent company
E11	Other annual hub(s) operating costs (not allocated to staff or buildings costs)	Calculation: 100% - sum of E9 and E10
E12	Does your answer to E8 include any debt interest costs or corporate taxes?	Yes / No
E12a	If yes, please state how much these were. (£)	Single number for parent company
E13	Does your answer to E8 include any depreciation charges or amortisation?	Yes / No
E13a	If yes, please state how much these were. (£)	Single number for parent company
E14	Do you have a way to estimate the shrinkage cost of any stock that has to be written off as wastage or lost to theft?	Yes / No
E15	If yes, what is your estimate of hub shrinkage cost over the last complete accounting year? (£)	Single number for parent company

E16	What proportion of your total annual hub(s) costs would be saved if the pharmacy did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Single number for parent company
E17	Are there any additional costs incurred in providing Hub and Spoke dispensing which are not charged fully in the company accounts and will not be captured in your total cost estimate above?	Yes / No
E18	If yes, please give an estimate of the annual value of these hidden costs (£)	Single number for parent company
E19	Are there any costs relating to Hub and Spoke dispensing that you are not incurring or important expenditure that you are putting off due to financial constraints, and which are therefore not captured in your total cost estimate above?	Yes / No
E20	If yes, please give an estimate of the annual value of these structural costs which were not possible to meet in the last complete accounting year. (£)	Single number for parent company
E21	Have there been any unfavourable post balance sheet events for the hub(s) specifically since the end of the last complete accounting year?	Yes / No
E22	Do you expect to incur a dilapidation charge for the hub(s) at the end of your lease?	Yes / No
E23	If yes, please give an estimate of the cost of the dilapidation at the end of your lease.	Single number for parent company
F1	Do you have additional costs which are incurred centrally beyond the costs allocated to individual branches? If No, skip this section and move to F12	Pre-populated from question A9
F2	Total annual centralised pharmacy costs for the last complete accounting year. Excluding cost of goods sold (£)	Single number for parent company
F3	What proportion of total centralised pharmacy costs are accounted for by staff costs (including permanent staff costs such as salaries, national insurance, company pension contributions, bonuses and other benefits and payments to temporary / locum staff)? (%)	Single number for parent company
F4	What proportion of total centralised pharmacy costs are accounted for by building costs (including mortgage /rental payments, rates, insurance, utilities, repairs and maintenance)? (%)	Single number for parent company
F5	Other annual centralised pharmacy costs (not allocated to staff or buildings costs)	Calculation: 100% - sum of E9 and E10
F6	Does your answer to F2 include any debt interest costs or corporate taxes?	Yes / No
F6a	If yes, please state how much these were.	Single number for parent company
F7	Does your answer to F2 include any depreciation charges or amortisation?	Yes / No

F7a	If yes, please state how much these were. (£)	Single number for parent company
F8	Do you have a way to estimate the shrinkage cost of any centralised stock that has to be written off as wastage or lost to theft?	Yes / No
F9	If yes, what is your estimate of centralised shrinkage cost over the last complete accounting year? (£)	Single number for parent company
F10	What proportion of your total annual centralised pharmacy costs would be saved if the pharmacy did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Single number for parent company
F11	What proportion of centralised pharmacy staff costs would be saved if staff did not perform any activity to deliver either 'beyond-scope local services' or beyond-scope private and other services'? (%)	Single number for parent company
F12	Are there any additional centralised costs which are not charged fully in the company accounts and will not be captured in your total cost estimate above?	Yes / No
F13	If yes, please give an estimate of the annual value of these hidden costs. (£)	Single number for parent company
F14	Are there any centralised costs that you are not incurring or important expenditure that you are putting off due to financial constraints, and which are therefore not captured in your total cost estimate above?	Yes / No
F15	If yes, please give an estimate of the annual value of these structural costs which were not possible to meet in the last complete accounting year. (£)	Single number for parent company
F16	Have there been an unfavourable post balance sheet event for the company as a whole since the end of the last complete accounting year?	Yes / No
F17	Do you expect to incur a dilapidation charge at the end of your lease?	Yes / No
F18	If yes, please give an estimate of the cost of the dilapidation at the end of your lease.	Single number for parent company
G1	What was total value of stock at last stock take? (ex VAT) (£)	Number entry for each pharmacy
G2	What proportion of this total will be used to support delivery of in-scope NHS services?	Number entry for each pharmacy
G3	Value of cash, debtors and all other current assets (£)	Number entry for each pharmacy
G4	In what year did you last carry out a major refit of your pharmacy?	For each pharmacy: Year (yyyy)
G5	Average depreciation period (in years) of pharmacy fixed assets, as per your accounting policy.	Number entry for each pharmacy

G6	Total replacement value of pharmacy fixed assets (ex VAT) (£)	Number entry for each pharmacy
H1	What was total value of pharmacy stock held centrally by the company (not at individual pharmacies) at the last stock take? (£)	Single number for parent company
H2	What proportion of this total will be used to support delivery of in-scope NHS services? (%)	Single number for parent company
H3	Value of cash, debtors and all other current centralised assets (£)	Single number for parent company
H4	In what year did you last carry out a major refit of centralised fixed pharmacy assets?	Year (yyyy)
H5	Average depreciation period (in years) of fixed pharmacy assets, as per your accounting policy.	Single number for parent company
H6	Total replacement value of pharmacy fixed assets held centrally by the parent company (ex. VAT) (£)	Single number for parent company
H7	What was total value of pharmacy stock at the Hub(s) at the last stock take? (£)	Single number for parent company
H8	What proportion of this total will be used to support delivery of in-scope NHS services? (%)	Single number for parent company
H9	Value of cash, debtors and all other current hub(s) assets (£)	Single number for parent company
H10	In what year did you last carry out a major refit of your pharmacy Hub(s)?	Year (yyyy)
H11	Average depreciation period (in years) of Hub(s) fixed assets, as per your accounting policy.	Single number for parent company
H12	Total replacement value of hub(s) fixed assets (ex VAT) (£)	Single number for parent company
H13	Value of short term outstanding debt (maturity <12 months) for the pharmacy business only (including pharmacy finance / advance payments, bank loan, overdraft, personal loan, other) (£)	Single number for parent company
H14	Value of long term outstanding debt (maturity >12 months) for the pharmacy business only (including pharmacy business only) (pharmacy finance / advance payments, bank loan, overdraft, personal loan, other) (£)	Single number for parent company
H15	Value of other liabilities (£)	Single number for parent company

Annex J – Top-down survey

Question number	Question	Answer type
1	Please provide the Companies House registration number for the parent company (or companies).	Free text
2	On what date did your last complete accounting year end?	Date dd/mm/yyyy
3	Did your last complete accounting year cover a full 12 months of trading?	Yes / No (Exit if no)
4	How many pharmacies are operated by the parent company (in England)?	Number
5	Please provide the ODS or F code for each of your pharmacies in England that was trading for the full 12 months of your last accounting year.	Free text box for up to 10 pharmacies
6	Please provide the total (ex-VAT) turnover (£) per pharmacy for the last complete accounting year (including all fees, BSA drug reimbursement, private / other services).	Number entry for up to 10 pharmacies
7	Please tell us what proportion (%) of your total turnover is from the different services you provide. The total for each row should be 100%: NHS income and OTC healthcare sales (%), locally funded services (%), private services and other sales (%)	Number entry for up to 10 pharmacies
8	Please provide the total (ex-VAT) turnover (£) per pharmacy for the last complete accounting year (including fees, private / other services) EXCLUDING BSA drug reimbursement.	Number entry for up to 10 pharmacies
9	If you use EBITDA as a measure of profitability at pharmacy level, please provide the total EBITDA (per pharmacy) for the last complete accounting year.	Number entry for up to 10 pharmacies
10	If you use PBT (profit before tax) as a measure of profitability at the parent company level, please provide total PBT for the last complete accounting year. This should include any centralised costs and/or hub costs.	Single number for parent company
11	Do you have any costs that are not allocated to individual pharmacy accounts?	Yes - some costs are centralised, or can not be split by pharmacy / No - All costs are allocated to individual pharmacy accounts
12	Please tell us your total operating costs in the last complete accounting year, excluding cost of goods sold (£)	Number entry for up to 10 pharmacies plus centralised and hub costs if relevant
13	What proportion (%) of your total annual operating costs would be saved if the pharmacy did not perform any activity to deliver locally funded services and private services or sales? (i.e the pharmacy	Number entry for up to 10 pharmacies plus centralised and hub costs if relevant

	only delivered NHS essential services, NHS advanced services and OTC healthcare sales).	
14	We would like to strip out any debt interest, corporate taxes, depreciation and amortisation from your operating costs. Do the figure(s) provided for your total operating costs include any of these aspects?	Yes / No at parent company level for each category
14a	Please state the amount(s) (£) that were included in your total operating costs.	Number entry for up to 10 pharmacies plus centralised and hub costs if relevant for each category selected in Q14.
15	Please provide the value of current assets at the end of the last complete accounting period: Value of stock Value of cash, debtors and all other current assets	Single number for parent company per category
16	Please provide an estimate of the cost in pounds to replace all fixed assets held by the parent company, exclusive of VAT.	Single number for parent company
17	Please provide the value in pounds of all outstanding debt (including pharmacy finance / advance payments, bank loan, overdraft, personal loan, other) and other liabilities at the end of the last complete accounting period	Single number for parent company
18	Have cost pressures over the last 3 years led to a significant change in: ...your management of staff? …your operations? ...your ability to finance the business? …your property management?	Yes / No for each aspect
19	Did your company have any hidden costs associated with the following in the last complete accounting year? Time spent by owner / owner's family on the business which is not charged at market rates Finance provided to the business which is below market rates Rent not being charged at market rate Use of personal motor vehicles for commercial purposes Not undertaking (or delaying) essential staff training Not filling vacancies Not undertaking essential repair and maintenance Any other important expenditure items that were not incurred or put off due to financial constraints Any other additional costs incurred through the pharmacy business which are not charged fully in the pharmacy accounts and will not be captured in the financial information that you have provided	Yes / No for each aspect
20	Did the pharmacy have at least one permanently employed pharmacist for the majority of the last complete accounting year?	Yes / No for up to 10 pharmacies

21	Did the pharmacy have a permanent Dispensing Technician or Accredited Checking Technician for the majority of the last complete accounting year?	Yes / No for up to 10 pharmacies
22	What is the ownership status of the pharmacy building?	Mortgaged, Owned outright, or Leased / rented for up to 10 pharmacies
23	Does the company operate a Hub and Spoke or centralised dispensing model?	Yes / No for up to 10 pharmacies
24	Do you use in-pharmacy automation in any of your pharmacies?	Yes / No for up to 10 pharmacies

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