

# *Cost of Service Investigation for Community Pharmacy in Northern Ireland*

May 2017

Final report



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# *Executive Summary*

## **Introduction**

In February 2015, PricewaterhouseCoopers LLP ('PwC') was commissioned by the Department of Health (DoH) to undertake a cost of services investigation (CoSI) of community pharmacy services in Northern Ireland in 2011/12.

Community pharmacy services refer to a range of services which are commissioned by the Health and Social Care Board (HSCB), these are referred to as HSC services. They also include other services not commissioned by HSCB which are referred to as non-HSC services.

## **Cost Methodology**

For this CoSI the total cost of providing community pharmacy services in Northern Ireland was categorised into two elements: Operating costs and Capital costs. Operating costs include staff, property, other branch costs, head office and owner costs. Capital costs include a fair rate of return on capital and depreciation costs.

In order to allocate costs between HSC and non-HSC, a Fully Allocated Cost (FAC) approach was selected for allocating staff costs based on the percentage of time staff spent on HSC/non-HSC activities. An equi-proportional mark-up (EPMU) approach was used to allocate common costs. Property costs were allocated to common costs, apart from branches identified as retail driven, where the costs were allocated based on revenue. Other branch costs and depreciation costs were allocated between HSC, non HSC and common based on input from the Expert Group (EG) with some directly allocated to HSC or non HSC and others treated as common.

Head office costs and owner costs were allocated to HSC, non-HSC or common using the FAC approach. Head office and owner costs were then allocated to branches according to the revenue share for each branch.

## **Data collection approach and analysis**

Contractors were asked to complete three information returns (branch, owner and head office) via an online tool.

In total completed branch returns were received for 77% of pharmacies in Northern Ireland.

PwC carried out a range of data verification and validation checks at the close of the full data collection phase in order to check that the data collected were accurate and suitable for further analysis.

The data used to estimate the total costs of community pharmacy were initially cleaned and validated. A sample of information returns were verified against the accounts provided to check the accuracy of the information provided.

## **Independent Contractors**

To extrapolate the total costs for the independent contractors, the overall population was stratified into four groups by quartile (25%, 50%, 75% and 100%) based on the annual numbers of items dispensed. This approach was used because the Independent Contractors who completed the information returns dispensed 7 per cent more items than the overall average for the Independent Contractor population<sup>1</sup>. An average cost was calculated for each of these groups. The 'missing' pharmacy branches, i.e. the branches that did not submit completed information returns, were allocated to one of the four groups based on their annual number of dispensed items. The costs for the 'missing' branches were then extrapolated using the average costs for the appropriate group.<sup>2</sup>

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<sup>1</sup> The analysis was based on matching dispensing information provided BSO under a Freedom of Information request with information from respondents to the Information Returns. This dispensing analysis covered 83%

of the Independent Contractors who completed information returns.

<sup>2</sup> The depreciation costs for independent contractors were extrapolated using the median depreciation cost for all

### **Small Chains**

The overall average cost for branches belonging to Small Chains were used to extrapolate the total costs for the missing Small Chain branches.

### **Multiples**

The average costs for the branches belonging to the Multiples (excluding the retail driven branches) were used to extrapolate the total costs for the missing Multiples branches. The costs for the retail driven pharmacies were not included in the extrapolation exercise as they were not considered to be representative of the pharmacies that did not complete an information return.

The total extrapolated costs were added to the costs collected from the information returns to give the estimate of total cost of all community pharmacy branches in Northern Ireland. 83% of the total costs reported are from the actual information returns, with 17% of costs due to the extrapolation exercise. This reflects the overall response rates in the data collection exercise.

### **Branch costs**

Branch costs included categories that make up the branch costs for a pharmacy; staff, property, depreciation and other branch costs.

Total staff payroll costs for all community pharmacy branches in Northern Ireland were estimated to be £77,215,165. 60% of staff payroll costs were from branches belonging to the Multiples, with 30% from branches belonging to Independent Contractors.

On average 85% of staff costs were allocated to HSC with the total staff payroll coming to £64,469,903 using the FAC approach. When the staff costs are adjusted for the funding provided for pre-registration students by HSCB, the HSC total staff cost is £60,878,903. Non HSC staff payroll costs totalled £12,745,263.

Non-employee staff costs were estimated to be £1,280,481. 85% of non-employee costs were allocated to HSC, which came to £1,090,600.

Total property costs for community pharmacy branches were estimated to be £27,480,009. 64% of property costs were for branches

belonging to the Multiples and they totalled £17,682,122.

Rent was the largest component of property costs at 54% followed by business rates at 20%, utilities at 13% and repairs and maintenance at 10%.

On average 61% of property costs were allocated to HSC. The total branch property cost allocated to HSC was £16,914,474. £10,565,535 of property costs were allocated to non-HSC.

78% of property costs for branches belonging to Independent Contractors were allocated to HSC, 51% of the branch property costs for Multiples were allocated to HSC and 81% of property costs for Small Chains were allocated to HSC. The majority of property costs were categorised as common costs and allocated as HSC or non-HSC using the EPMU approach. However, based on analysis of the information returns, any branch that received more than 50% of their revenue from non-HSC activities was classified as a retail driven branch and their property costs were allocated based on their revenue mix between HSC and non-HSC.

Total other branch costs (including uncategorised costs) were estimated to be £23,974,251. Stock obsolescence at 18% and Retail distribution at 14% were the two largest individual cost categories. 22% of other costs were in categories outside of the top 10, which indicates a large number of other costs.<sup>3</sup> 9% of costs remained uncategorised and as such were allocated as non-HSC.

On average 32% of other costs were allocated to HSC. The total was £6,819,213. Branches belonging to Independent Contractors accounted for 56% of other costs, 33% were for branches of Multiples and 10% for branches of Small Chains.

The average HSC cost for a branch operating in an urban location was 33% higher than for a branch operating in a rural location (£195,667 compared to £146,952), which reflects the greater share of Multiple branches in urban locations.

In contrast the average HSC costs for branches outside of Belfast (a mix of rural and urban areas) were almost 8% higher than for branches

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independent contractors as there were insufficient complete data points in this category to enable sub group analysis.

<sup>3</sup> Further details on other costs are provided in Appendix F.

in Belfast (£189,281 compared to £174,522), as a higher share of costs were allocated to HSC outside of Belfast.

### **Owner costs**

Owner costs were divided into owner remuneration and costs not on payroll. The owner costs not included on payroll represent inputs provided by the owner that are not reflected in the payroll costs. These costs are estimated by the owners and by their nature are not included in their accounts.

The total remuneration for pharmacy owners was estimated to be £9,032,399. This excludes dividends and rent payments to owners in order to avoid any double counting. The owner costs not on the payroll were estimated to be £9,744,761. These are costs reported by the owners.

In terms of allocating owners' costs between HSC and non-HSC, 87.8% of owner remuneration was allocated to HSC and 91.5% of non-payroll costs were allocated to HSC totalling £7,939,478 and £8,913,424 respectively.

£1,930,946 of owner costs were allocated to non HSC. The average owner remuneration per branch was £16,883, of which £14,840 was allocated to HSC costs.

### **Head office costs**

The total head office cost for community pharmacy services in Northern Ireland was £20,734,267, 99% of head office costs came from the Multiples with the other 1% coming from Small Chains. 69% of head offices were from four activities, namely professional services, distribution, ICT and property costs. Costs were allocated into HSC, non HSC and common costs using the FAC approach with staff time the driver. On average 35.5% of head office costs were allocated to HSC, which totalled £7,352,195.

The average head office cost per branch for Small Chains was £2,740, of which 83% or £2,274 was allocated to HSC. The average head office cost per branches for Multiples was £86,371, of which 35% or £30,270 was allocated to HSC.

### **Depreciation**

Total economic depreciation for branches was estimated to be £8,658,933. The highest

proportion of total economic depreciation was in "all other assets" depreciation amounting to £3,931,210, followed by retail shelving at £1,711,158.

On average 58% of branch depreciation costs were allocated to HSC. The total allocated to HSC was £5,011,529. £3,647,404 of depreciations costs were allocated to non-HSC. 35% of depreciation costs for branches belonging to the Multiples were allocated to HSC compared to 76% and 67% for branches belonging to Independent Contractors and Small Chains.

### **Fair Rate of return**

The fair rate of return for community pharmacy services in Northern Ireland was examined. Two approaches were considered:

1. A return on capital approach
2. A margins benchmarking approach

The return on capital approach is a relatively direct approach to calculating a fair return for providers of capital and uses logical relationships that are applied directly to the capital invested in a company. In addition, this approach is not heavily dependent on the selection of relevant benchmarks. Following this approach, we estimate an overall fair return for Northern Ireland pharmacies of £39,145.

The margins benchmarking approach using the return on sales approach provides an overall fair return estimate for Northern Ireland pharmacies of £32,230.

### **Overall results**

Based on the agreed CoSI methodology the total cost of providing community pharmacy services was estimated to be £183.3 million or £189.0 million in Northern Ireland in 2011/12. This cost consisted of operating costs and capital costs. Operating costs were split into five components, which were staff payroll costs, property costs, other branch costs (these three could be combined to give a total branch cost) as well as head office and owner payroll costs. Capital costs were split into two components, depreciation and fair return. Two methods are used to calculate fair return and the results of both methods are presented in the summary tables.

Total Branch costs (including staff, property and other branch costs) were £128.7 million, Owner costs totalled £9.0 million and Head Office costs

were £20.7 million. Two methods were used to calculate the fair rate of return. Using the WACC approach, the fair rate of return cost was £21.9 million and using the return on sales benchmarking approach the cost was £16.2 million. The estimated depreciation cost was £8.7 million. An additional component, the non-recorded payroll staff and owner costs, represents the estimated cost of time inputs that did not appear on the branch payroll or as part of the owners' remuneration. This cost was estimated to be £11.0 million.

Branches belonging to the Multiples accounted for 58% or 61% (depending on the fair return method used) of the overall total cost compared to 33% or 30% for branches belonging to Independent Contractors and 9% for branches belonging to Small Chains.

### ***HSC and non-HSC costs of community pharmacy services***

The total HSC cost of providing community pharmacy services (excluding non-recorded payroll costs) was estimated to be £120.5 million or £126.2 million depending on the fair return method used. The non-HSC cost was estimated at £58.5 million. The stock obsolescence cost of £4.35 million was not allocated to HSC or non-HSC. It should be noted that the treatment of these costs needs to be considered outside of the CoSI.

The total HSC cost was £120.5 million or £126.2 million depending on the fair return method used. When the total HSC non-payroll staff costs for branches and owners are included (£10 million), this value rises to £130.5 million or £136.2 million.

Excluding stock obsolescence costs, on average 68% of costs were allocated to HSC and 32% to non-HSC when using method 1 for fair return or 67% and 33% respectively when using method 2. Branches belonging to the Multiples accounted for 50% or 55% (depending on the fair return method used) of the HSC cost compared to 40% or 36% for branches belonging to Independent Contractors and 10% or 9% for branches belonging to Small Chains.

### ***Sensitivity Analysis***

Due to the magnitude of staff costs, which account for 60% of branch operating costs, sensitivity analysis was conducted to examine the impact of different rates of staff time allocation to HSC and non HSC on the total HSC cost.

In the first scenario, the allocation of time to HSC activities for each role was increased by 10 percentage points. A natural cap was set so that no allocation of time to HSC exceeded 100%. In the second scenario, the allocation of time to HSC activities for each role in each branch was decreased by 10 percentage points.

Increasing the allocation of staff time to HSC means that the overall total HSC cost would increase by 3% to £124.7 million or £130.4 million.

Conversely decreasing the allocation of time to HSC means that the overall total HSC cost would decrease by 9% to £110.2 million or £115.9 million.

# 1 Introduction

## *Introduction*

This chapter discusses the background to the cost of service investigation (CoSI) of community pharmacy services in Northern Ireland along with the terms of reference for the project. The chapter is laid out as follows:

- Background
- Terms of reference
- Project approach
- Report structure

## *Background*

In February 2015, PricewaterhouseCoopers LLP ('PwC') was commissioned by the Department of Health (DoH) to undertake a cost of services investigation (CoSI) of community pharmacy services in Northern Ireland<sup>4</sup>. Community pharmacy services refer to a range of services which are commissioned by the Health and Social Care Board (HSCB), these are referred to as HSC services. They also include other services not commissioned by HSCB, which are referred to as non-HSC services. Appendix E sets out the list of HSC and non-HSC activities and services that were used in this CoSI.

There were 535 community pharmacies operating in Northern Ireland in 2011/12. They were operated by a range of owners, from Independent Contractors, to Small Chains and large Multiples.<sup>5</sup>

## *Terms of reference*

The overall aim of this project is to ascertain and report the total costs of providing community pharmacy services in Northern Ireland for the fiscal year 2011/12.

The objectives of this CoSI are outlined in the Terms of Reference between DoH and PwC for this work. A summary of the terms of reference is set out below:

- All community pharmacy costs in 2011/12 are to be identified and examined.
- An agreed methodology will be taken forward for this CoSI, which will outline the approach used to allocate all costs into HSC, non-HSC and common<sup>6</sup>. The methodology will be reported.
- PwC will communicate directly with community pharmacies to collect, consolidate and analyse all cost data to establish the total cost of providing community pharmacy services in Northern Ireland in 2011/12.
- A final report is required that documents the methodology used and provides the total costs for the different pharmacy types in Northern Ireland. These costs will be allocated into HSC and non-HSC components.

This report has been prepared to present the final results of this CoSI to the Expert Group (EG)<sup>7</sup>.

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<sup>4</sup> The Department of Health (DoH) was called the Department of Health, Social Services and Public Safety (DHSSPS) until May 2016.

<sup>5</sup> The different contractor types are defined in chapter 3.

<sup>6</sup> Common i.e. costs that could not be clearly attributed to either HSC or non-HSC.

<sup>7</sup> The Expert Group (EG) consisted of DoH, HSCB, Community Pharmacy Northern Ireland (CPNI) and PwC. HSCB and CPNI provided technical input into the CoSI. DoH chaired the EG.

## *Project Approach*

There were 6 stages in the approach used for this project. They are listed and a short summary of the activities for each stage is provided below:

- Project initiation
- Development of the methodology
- Design and testing of the data collection tool
- Full data collection
- Data analysis
- Reporting

### *Project initiation*

PwC met with the DoH to commence the project and subsequently with the EG to discuss the overall approach to undertaking the CoSI.

### *Development of the methodology*

A methodology paper for the NI CoSI was produced by PwC. This paper outlined different approaches that could be used in the CoSI. The following documents were used to inform the development of the methodology paper and subsequently the information returns:

- NIAO 2014 – Primary Care Prescribing (including PAC Report on Primary Care Prescribing).
- Making it better through pharmacy in the community: A five year strategy for pharmacy in the community (2014) (including Implementation Plan).
- John Appleby 2011 - Rapid Review of Northern Ireland Health and Social Care funding needs and the productivity challenge 2011/12 – 2014/15.
- HSC Transforming your Care: A Review of Health and Social Care in Northern Ireland (2011).
- 2004 Version of DHSSPS Making It Better Strategy.

The methodology paper set out different options for allocating costs as HSC, non HSC or common costs as well as the pros and cons of each approach. This paper was shared with the EG members. PwC held consultations with each organisation and received feedback on the preferred approach for each member. A revised methodology paper was produced, which included the collective feedback of the consultations in terms of a proposed methodology for the NI CoSI.

Following further consultations a final draft methodology paper was produced. There were a number of outstanding issues to be resolved. It was agreed that these issues would be tested through the pre-pilot and pilot exercise e.g. the most appropriate way to allocate property costs. The additional information gathered from the pre-pilot and pilot exercise was used to develop a final methodology for the NI CoSI, which was presented to the EG. The final methodology was agreed by DoH and the EG.

The PwC methodology proposed that an online data collection tool would be the most appropriate method to capture all the costs of community pharmacies in Northern Ireland.

### *Design and testing of the data collection tool*

Three information returns were designed to capture all the costs associated with the operation of community pharmacy services in NI. The information returns captured the branch costs, branch owner costs and head office costs.

Each information return was tested in the pre-pilot in order to check the appropriateness of the questions and the availability of the information required (given the costs were required for 2011/12). In addition, a number of questions to inform the methodology were asked as part of a supplementary return.

Three online information returns were designed and tested by PwC. An online pilot exercise was conducted to test the functionality of the online tool and how easily community pharmacy contractors could provide the information required to undertake the CoSI. The pilot exercise was also used to test certain aspects of the methodology, where further information was required to agree the methodology. For example, questions were asked to test if the contractors could provide a breakdown of floor space in each branch by activity, such as the dispensary, consultation room, retail shelving etc. The findings

from the pre-pilot and pilot exercises were used to update and finalise methodology and the questions to be asked in the full data collection phase.

### *Full data collection*

Based on findings from the pre-pilot and pilot exercises, some of the questions in the online returns were amended and the information returns were updated. Following further testing the online information returns were launched in January 2016. Advance notification of the data collection exercise was provided and supporting information was sent to the pharmacy contractors to help them complete the information returns. PwC provided a helpdesk to answer contractor queries via email and telephone.

Reminder emails and calls were carried out to encourage contractors to complete their information returns. The completion deadline was extended by four weeks to give contractors more time to complete their returns. This resulted in an overall response rate of 77% for the branch information returns and 55% for owner/head office information returns (covering 77% of branches).

Contractors were required to provide a copy of their accounts for 2011/12<sup>8</sup> to support the information provided in their information returns.

### *Data analysis*

The total costs of providing community pharmacy services in Northern Ireland in 2011/12 were estimated based on the information collected via the information returns. Data validation checks were also built into the online information returns. Further analysis, such as outlier analysis was undertaken to sense check the information provided. The data provided in the information returns were verified against the accounts provided for a sample of the information returns.

Costs were analysed in the following categories for individual branches: staff, property, depreciation, other costs and owner. Head office costs were also analysed and allocated to branches. All costs were allocated between HSC, non HSC and common according to the agreed methodology. There was a group of costs in the other branch costs category that were not specified to a particular task or item. PwC contacted the contractors for clarification on these costs to enable them to be allocated into HSC, non-HSC or common. Where costs remained unspecified, they were allocated as non-HSC costs.

### *Reporting*

A final draft report was produced and comments were provided by the EG. A final report was agreed with DoH following feedback from the EG. The numbers presented in this report are an estimate of the total cost of providing community pharmacy services in 2011/12, based on the agreed methodology for the CoSI. An overview of the methodology is provided in Chapter 2 and the full methodology is included in Appendix G.

### *Report structure*

This report presents the results of our analysis. The remainder of the report is structured under the following chapters:

- Cost Methodology
- Data collection approach and analysis
- Branch costs
- Owner costs
- Head office costs
- Depreciation
- Fair rate of return

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<sup>8</sup> Contractors were provided with guidance to help them select the appropriate accounts to use for this CoSI. Appendix D outlines the FAQ and guidance sent to contractors to enable them to select the appropriate accounts.

- Value for money and future proofing
- Overall results
- Appendices
  - A.** Branch questionnaire
  - B.** Owner questionnaire
  - C.** Head office questionnaire
  - D.** Frequently asked questions and guidance sent to contractors
  - E.** List of HSC and non-HSC services
  - F.** List of “Other branch costs” allocations
  - G.** Final Methodology Paper
  - H.** Intangible asset valuation
  - I.** Weighted average cost of capital
  - J.** Final Fair Returns Options Paper
  - K.** Expert Group Meeting December 2015 presentation
  - L.** List of Other staff roles, costs and allocations

# 2 Cost Methodology

## Introduction

This chapter provides an overview of the methodology used by the project team to assess, identify and allocate the costs of community pharmacy services in Northern Ireland into HSC, non HSC and common categories.

This chapter is structured as follows:

- The framework for assessing costs
- The approach to allocate costs between HSC, non HSC and common
- How costs are allocated in this CoSI

## The framework for assessing costs

The total cost of providing community pharmacy services in Northern Ireland is made up of two elements.

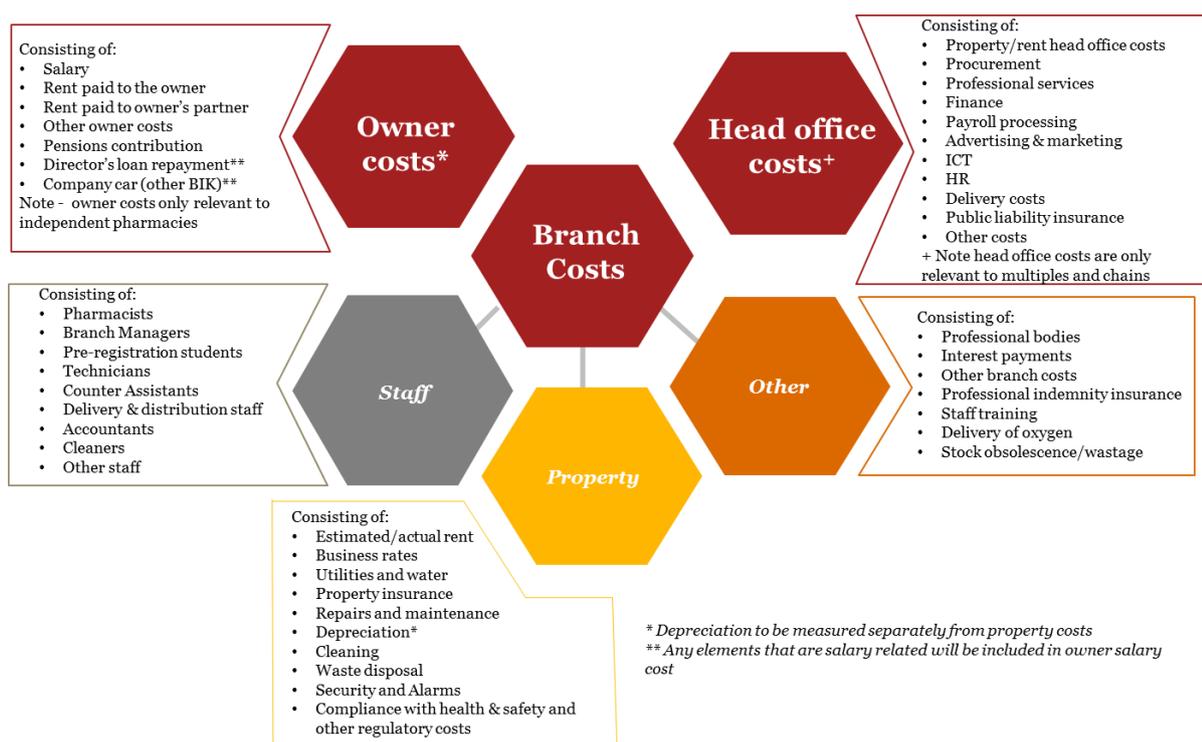
- Operating costs and
- Capital costs

These are discussed in more detail in the following sections.

## Operating Costs

Operating costs have been broken into three elements for this CoSI. They are branch costs, head office costs and owner costs. Figure 2.1 provides a breakdown of the costs for each of these elements. Branch costs which make up the largest share of costs are further divided into three categories, namely staff, property and other costs.

**Figure 2.1: Operating costs for community pharmacies**



## **Capital Costs**

Capital costs consist of two categories:

- Depreciation - the return of capital
- Return on capital – fair return

In this report depreciation is measured as a cost to individual branches and is captured using information collected in the data collection exercise.

The return on capital is estimated using two approaches, one using a weighted average cost of capital (WACC) approach and the other a margins benchmarking approach. More detail on both approaches is provided in Chapter 8 of this report.

## **The approach to allocate costs between HSC, non HSC and common**

In this section of the report we describe the approach taken to allocate each type of cost into one of the following 3 categories; HSC, non-HSC or common. Two complementary methods were used. They are:

- Fully Allocated Cost (FAC) approach
- The Equi-Proportional Mark-Up (EPMU) approach

Both approaches are explained in more detail in the following paragraphs.

### **Fully Allocated Cost (FAC) approach**

The Fully Allocated Cost (FAC) approach is the approach used in this CoSI to allocate pharmacy costs between HSC, non-HSC and common<sup>9</sup>. The FAC approach involves allocating costs in proportion to drivers. For example, staff costs in this CoSI have been allocated based on the stated percentage of time staff spent on HSC, common or non-HSC activities across each staff role.

The FAC approach has the advantage that the allocation is based on the specific data collected for each branch as part of the data collection exercise. A disadvantage is that it relies on those completing the return to provide their best estimate of how their staff spent their time for the year 2011/12.

### **The equi-proportional mark-up (EPMU) approach**

The equi-proportional mark-up (EPMU) approach is used to allocate common costs to HSC and non-HSC in the same proportion that costs have been directly allocated to these categories. For example, if a particular branch had HSC allocated costs of £70,000 allocated using the FAC, Non-HSC allocated costs of £30,000 and common costs of £10,000, then £7,000 of the common costs would be allocated to HSC and £3,000 would be allocated to non-HSC.

## **How costs are allocated in the CoSI**

In an exercise like the CoSI it is important to achieve a high response rate and that the information returns are fully completed. Given the complexity of the exercise a balance had to be achieved between the volume and complexity of the information requested and the response rate. As some of the required information for the CoSI was not collected or held by contractors in a manner required by the CoSI agreed methodology, the contractors were asked to provide their best estimates. For example, contractors were asked in the information returns to provide their best estimates of how staff time was allocated to HSC, non HSC and common for all their staff in 2011/12. Sensitivity analysis was conducted on these key variables to consider the impact of under or over reporting of these allocations.

It was agreed that some 'other costs' would be allocated to the common cost category, because collecting the required information to allocate them directly to HSC or non HSC was either not

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<sup>9</sup> Full details of the allocation methodologies and discussions of alternative approaches (such as LRIC or quasi LRIC) are provided in Appendix G.

possible or would have added another level of complexity to the information returns, which could have reduced the overall response rate. The pre pilot and pilot exercises informed these decisions.

Table 2.1 outlines the different approaches used to allocate each type of pharmacy costs that has been collected via the information returns. These allocation approaches were agreed with DoH with input from the EG.

**Table 2.1: Allocation of costs to HSC, non-HSC or Common**

<b>Cost Category</b>	<b>Allocation to HSC, non-HSC or common</b>
<b>Branch staff costs</b>	Staff costs are allocated using the FAC approach into HSC, non HSC or common. The Equi-Proportional Mark-up (EPMU) approach was used to allocate common staff costs into HSC and non HSC.
<b>Branch property costs</b>	Where the contractor indicated that the branch is primarily a community pharmacy (from question 5b), property costs are treated as common and the EPMU was used to allocate them. Where the contractor indicated that the branch is a retail driven pharmacy or when a contractor was identified as retail driven from further PwC analysis, then the split in revenue between HSC and non HSC is used to allocate property costs into HSC and non-HSC. PwC sense checked the information provided and re-allocated a number of branches to retail driven based on their share of revenue and location.
<b>Other branch costs</b>	In the information return contractors were asked to provide a breakdown for staff training costs and stock obsolescence into HSC and non HSC if possible. Where contractors were unable to provide the breakdown, then the costs were treated as common and allocated using EPMU. <sup>10</sup> For other identified branch costs, they were allocated to HSC, common or non-HSC based on agreed determinations between the PwC project team and DoH. Full details of these determinations can be found in Appendix F. Common costs were allocated to HSC and non-HSC using EPMU.
<b>Depreciation</b>	The allocation of depreciation costs for most assets into HSC, non-HSC and common was determined by the EG. The EG agreed that Dispensary and Consultation room costs should be allocated to HSC, Counter area and Motor vehicles should be treated as common (and allocated using EPMU), and Retail shelving should be allocated to non-HSC.
<b>Head office costs</b>	<b>Allocating to HSC, non-HSC or common</b> The costs for each division or function within the head office were allocated using the FAC approach. The share of staff time between HSC, non-HSC and common activities was used as the cost driver to allocate both staff costs and non-staff costs. Common costs were allocated to HSC and non-HSC using EPMU. <b>Allocating to individual branches</b> The share of revenue for each branch of the total group revenue was then used to allocate costs between branches, e.g. if a branch accounted for 10% of its group's revenue, then 10% of the head office costs were allocated to that branch.

<sup>10</sup> HSCB noted that their agreement to treat stock obsolescence as common was dependent on the overall scale of this cost. They noted that they should not be treated as an ongoing operational cost. Their preference is that it should be managed as part of a separate process.

### ***Allocating to HSC, non-HSC or common***

The FAC approach was used to allocate owner costs into HSC, non-HSC and common costs. Owners were asked in the information returns to allocate their time spent on HSC, non-HSC and common activities that they undertook and this was used as the driver to allocate owner costs.

#### **Owner costs**

### ***Allocating to individual branches***

The EPMU value taken from the corresponding branch return (or average value if there were multiple branches) was used to allocate the common owner costs into HSC and non-HSC.

Owners were also asked in the owner information returns to indicate how their time was spent between their pharmacy branches. This information was used to allocate the owner costs to the individual pharmacy branches. If this information was not provided, then the owner's costs were allocated to branches based on each branch's share of revenue of the group's total revenue.

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#### **Fair rate of return**

Two approaches to estimating a fair rate of return are used. The first approach uses a weighted average cost of capital (WACC) approach and the second a margins benchmarking approach. More detail on both approaches is provided in chapter 7 of this report.

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This approach was agreed in order to support a high response rate in the data collection exercise. However, allocating the costs using the methods outlined in Table 2.1 has some potential disadvantages. There could be some under or over reporting of allocations to HSC, non HSC or common and therefore HSC costs may appear higher or lower than expected<sup>11</sup>. Sensitivity analysis was conducted on key variables to consider the impact of under or over reporting of those variables.

## ***Summary***

This chapter of the report has outlined the approach used to assess, identify and allocate costs into HSC, non-HSC and common costs.

The total cost of providing community pharmacy services in Northern Ireland has two elements: Operating costs and Capital costs. Operating costs include staff, property, other branch costs, head office and owner costs. Capital costs include a fair rate of return on capital and depreciation costs.

In order to allocate costs between HSC and non-HSC, a Fully Allocated Cost (FAC) approach was selected for allocating staff costs based on the percentage of time staff spent on HSC/non-HSC activities. An equi-proportional mark-up (EPMU) approach was used to allocate common costs. Property costs were allocated to common costs except when a contractor was identified as retail driven in which case property costs were allocated according to the percentage of that branch's revenue that was allocated as HSC. Other branch costs and depreciation costs were allocated between HSC, non HSC and common based on input from the EG with some directly allocated to HSC or non HSC and others treated as common.

Head office costs and owner costs were allocated to HSC, non-HSC or common using the FAC approach. Head office and owner costs were then allocated to branches according to the revenue share for each branch.

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<sup>11</sup> DoH has noted that the HSC allocation of transport costs, delivery driver costs, and motor vehicles costs are higher under this approach than they would have expected.

# 3 *Data collection approach and analysis*

## *Introduction*

This chapter provides a summary of the data collection exercise. It also provides an overview of the data analysis.

This is made up of the two main elements, namely the design of the data collection tools and the actual data collection exercise. In addition, this chapter provides detail on the steps taken to validate, verify and analyse the information provided. The chapter is structured as follows:

- The data collection approach
- Data analysis

## *The data collection approach*

This section provides a summary of the tasks undertaken to prepare the data collection tools. It has the following sub sections:

- Information returns
- The data collection exercise
- Response rates

## *Information returns*

Three information returns were used to collect the branch, owner and head office costs for the financial year 2011/12<sup>12</sup>. They are briefly described in the following paragraphs<sup>13</sup>.

### ***The branch information return***

This information return focused on collecting costs for each branch and included staff costs, property costs, depreciation costs and other branch costs. We asked contractors to complete a branch information return for each individual community pharmacy branch in NI.

Independent Contractors, Small Chains and Multiples were all asked to complete this information return.

### ***The owner information return***

This information return focused on collecting costs solely related to the owner(s) of each branch or group of branches. We asked contractors for information in relation to the remuneration received by each owner and also for information relating to the time spent by owners working in the pharmacy(s) that was not captured in their account payrolls.

Independent Contractors, Small Chains and Multiples were all required to complete this information return.

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<sup>12</sup> The different statutory year ends for the pharmacy contractors in Northern Ireland means that the analysis reported in this report may not directly correspond to data for the public sector financial year for 2011/12 i.e. April 2011 to March 2012.

<sup>13</sup> The final information returns are provided in Appendix A, B and C respectively.

Only one owner information return was required to be completed for each group of pharmacies.

### ***The head office return***

Small chains and Multiples were asked to complete a head office return for their entire group. Independent Contractors were given the option to complete a head office return, if they felt they had separate head office costs that were not captured in the owner or branch information returns, by requesting a link from the PwC project team.

The information returns were designed by PwC and agreed with DoH with further input provided by the EG. The information returns were tested in pre-pilot and pilot exercises in order to confirm their suitability for the CoSI.

### ***Data Entry Validation***

In finalising the three information returns PwC and DoH agreed a set of data validation requirements for each question. For example, in recording staff time, a description was required for each other staff role entered before the person completing the return could move on to the next question. In addition, validation requirements were in place to make sure any totals summed correctly. For example, the allocation of staff time to HSC, non HSC and common had to sum to 100%. Further details of these requirements are provided in information returns in Appendices A, B and C.

### ***Analysis of the community pharmacy population***

There were 535 community pharmacy branches operating across Northern Ireland in 2011/12. Every community pharmacy in Northern Ireland was given the opportunity to participate in the CoSI, either in the full data collection exercise or through involvement in the pre-pilot and pilot stages.

For the purposes of our analysis, each pharmacy was placed into one of the following three categories:

- **Independent Contractors:** Pharmacy groups with 3 or less branches
- **Small Chains:** Pharmacy groups with between 4 and 9 branches
- **Multiples:** Pharmacy groups with 10 or more branches

Table 3.1 outlines the number of pharmacies in each category and the percentage of the branches in each category.

***Table 3.1: The number of pharmacy branches in each category***

<b>Category</b>	<b>No. of branches</b>	<b>% of Total</b>
Independent Contractors	232	43.4%
Small Chains	65	12.1%
Multiples	238	44.5%
<b>Total</b>	<b>535</b>	<b>100.0%</b>

### ***Response rates***

The full data collection exercise, ran for 10 weeks between 26th January and 29th March 2016. The overall response rate for pharmacies that provided fully completed information returns for the data collection exercise is provided in Table 3.2. 77% of community pharmacy branches were covered by the data collection exercise.

**Table 3.2: Branch information returns**

Category	No. of branch returns sent out	No. of completed responses	Response rate (%)
Independent Contractors	232	139 <sup>14</sup>	60.0%
Small Chain	65	49 <sup>15</sup>	75.4%
Multiples	238	223 <sup>16</sup>	93.7%
<b>Total</b>	<b>535</b>	<b>411</b>	<b>76.8%</b>

Table 3.3 provides the response rate for the owner / head office information returns. 55% of owner and head office information returns were also completed, which covered 411 (77%) community pharmacy branches in Northern Ireland.

**Table 3.3: Owner and head office information returns**

Category	No. of owner and head office returns sent out	No. of completed responses	Response rate (%)
Independent Contractor	205	105	51.2%
Small Chains	13	12	92.3%
Multiples	6	6	100%
<b>Total</b>	<b>224</b>	<b>123</b>	<b>54.9%</b>

## Data analysis

This section of the report provides an overview of the approach taken to prepare and analyse the data provided in the information returns.

These are four sections which are explained in more detail below:

- Data cleaning and preparation
- Validation of data
- Data verification
- Calculating the total cost of Community Pharmacy services in Northern Ireland

### Data cleaning and preparation

This sub section provides an overview of the steps taken to clean and prepare the information returns for analysis.

- Initial data cleaning was carried out by the PwC survey team. The raw data from the online returns were processed and incomplete returns were removed from the sample. The data were transferred from the online database into the data analysis tool.
- Data were analysed at an individual branch level to check that answers were appropriate e.g. totals were checked that they summed correctly, the data category was checked to make sure it was correct etc.

<sup>14</sup> There were 6 returns that provided information for 2 branches in a single online return. When this was the case it was clearly communicated to the PwC project team that their information return contained data for multiple branches. Costs were divided equally between the branches for the same owner.

<sup>15</sup> There was 1 return that provided information for 3 branches in a single online return.

<sup>16</sup> There was 1 return that provided information for 2 branches in a single online return.

- Incorrect data entries were identified and corrected. For example, in some cases the value entered for a staff salary was an annual value rather than monthly as the information returns asked for. Such errors were corrected.
- Some contractors with more than 1 pharmacy branch provided their costs for multiple branches in 1 information return. These returns were identified and a “per branch” cost was calculated for each branch covered in that return.
- Spot checks of responses were carried out to identify and correct any further data entry errors.

### *Validation of data*

- Data were sense checked by comparing the costs for each category against the completed returns in each branch type.
- Magnitude checks were carried out to identify outliers from the sample data for each key variable (e.g. staff costs, rent, owner costs). These checks identified values for each category and variable that fell outside the range of 2 standard deviations from the mean. These data points were investigated further. As part of this investigation the data received were checked and verified against the relevant accounts. There were follow up calls with contractors to help explain some of the information provided. Clear data entry errors were corrected. Outliers that could not be explained after further investigation including consultations with the information provider were excluded from the analysis.
- The estimated rent costs for branches were compared to the actual rents provided. Rents were also sense checked by location.
- The response rate for each type of pharmacy was analysed to check that the returns were representative of the pharmacy population by pharmacy type. The high number of responses in each category satisfied this requirement.
- An analysis of the Independent Contractor returns by items dispensed was conducted to check the profile of respondents against the population of Independent Contractors. This analysis was used to inform the approach to scale up the costs for Independent Contractors.

### *Data verification*

Data verification was undertaken to check the accuracy of the information provided in the information returns compared to the accounts provided for that branch. The following approach was taken to verify the operating costs for community pharmacies. It consisted of three stages:

- Selection of branches for verification
- Initial verification against accounts
- Additional verification

### ***Selection of branches for verification***

The following section provides the details of how the branches were selected for verification. Table 3.4 shows the approach used to select the branch by type for verification.

***Table 3.4: Selection of branches for verification***

<b>Category</b>	<b>Approach</b>
Independent Contractors	<ul style="list-style-type: none"><li>• Sorted by revenue size.</li><li>• Top 3, middle 3 and bottom 3 pharmacies by revenue size selected for verification.</li><li>• Additionally the Midpoint by revenue size pharmacy, the 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 100<sup>th</sup> by revenue size selected.</li><li>• For any contractor that supplied information for multiple branches in a single return, their returns were verified against their accounts.</li><li>• Any outliers were also examined in more detail and selected for verification.</li></ul>
Small Chains	<ul style="list-style-type: none"><li>• Accounts for each 6th branch in order of revenue size selected for verification.</li><li>• Any outliers were also examined in more detail and selected for verification.</li></ul>
Multiples.	<ul style="list-style-type: none"><li>• All pharmacy groups in this category were selected for verification.</li></ul>

### ***Initial verification against accounts***

To verify the accuracy of the data provided in the information returns, the project team checked the information provided in the information returns against the figures reported in their accounts for 2011/2012.

For each pharmacy, the following information was verified:

- Total value of assets
- Total staff costs
- Total revenue
- Total current assets
- Total current liabilities
- Rent (actual or approx.)
- Rent (in accounts)
- Total depreciation
- Total professional fees
- Professional indemnity insurance
- Total stock valuation
- Owner/Directors remuneration

It was expected that values provided in the information returns would exactly match the corresponding figures in the accounts. Any exceptions to this were further analysed by the project team by undertaking additional verification.

For some pharmacies where financial accounts were only available at a group level, the costs from all the pharmacies within that group were totalled together before being compared to the accounts. This allowed the project team to check that the information provided at a group level matched the accounts.

For UK multiples, published accounts were not available for Northern Ireland. Therefore the costs for Northern Ireland were sensed checked against the total costs using revenue in Northern Ireland relative to the UK as a proxy to provide an indicative total cost for Northern Ireland.

### ***Additional verification***

In cases where the information provided in the information returns did not match the accounts of the contractor, follow up calls were made and emails were sent to the contractors to request further information or clarification on the information provided. This resulted in the information being amended or removed from the analysis.

### ***Calculating the total cost of Community Pharmacy services in Northern Ireland***

To estimate the total cost of community pharmacy services in Northern Ireland in 2011/12, the costs figures provided in the information returns were extrapolated for the pharmacy branches that did not complete an information return. Therefore in the report when a figure is referred to as a total cost for Northern Ireland, that relates to all 535 pharmacies in NI unless otherwise stated.

### ***Independent Contractors***

To extrapolate the total costs for the independent contractors, the overall population was stratified into four groups by quartile (25%, 50%, 75% and 100%) based on the annual numbers of items dispensed. This approach was used because the Independent Contractors who completed the information returns dispensed 7 per cent more items than the overall average for the Independent Contractor population<sup>17</sup>. An average cost was calculated for each of these groups. The ‘missing’ pharmacy branches, i.e. the branches that did not submit completed information returns, were allocated to one of the four groups based on their annual number of dispensed items. The costs for the ‘missing’ branches were then extrapolated using the average costs for the appropriate group.<sup>18</sup>

### ***Small Chains***

The overall average cost for branches belonging to Small Chains were used to extrapolate the total costs for the missing Small Chain branches.

### ***Multiples***

The average costs for the branches belonging to the Multiples (excluding the retail driven branches) were used to extrapolate the total costs for the missing Multiples branches. The costs for the retail driven pharmacies were not included in the extrapolation exercise as they were not considered to be representative of the pharmacies that did not complete an information return.

The total extrapolated costs were added to the costs collected from the information returns to give the estimate of total cost of all community pharmacy branches in Northern Ireland. 83% of the total costs reported are from the actual information returns, with 17% of costs due to the extrapolation exercise. This reflects the overall response rates in the data collection exercise.

### ***Summary***

This chapter has provided an overview of the data collection approach. Contractors were asked to complete three information returns (branch, owner and head office) via an online tool.

In total 77% of contractors in Northern Ireland provided completed branch information returns for the CoSI. 55% of head office and owner returns were received, which covered 76% of branches.

This chapter of the report outlined the data cleaning, validation and verification that was carried out at the close of the full data collection phase.

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<sup>17</sup> The analysis was based on matching dispensing information provided BSO under a Freedom of Information request with information from respondents to the Information Returns. This dispensing analysis covered 83% of the Independent Contractors who completed information returns.

<sup>18</sup> The depreciation costs for independent contractors were extrapolated using the median depreciation cost for all independent contractors as there were insufficient complete data points in this category to enable sub group analysis.

This chapter also provided an overview of the data analysis approach. The data used to estimate the total costs of community pharmacy were initially cleaned and validated. A sample of information returns were verified against the accounts provided to check the accuracy of the information provided.

The approach used to extrapolate the costs from the information returns to give an estimate of the total cost of providing community pharmacy services in Northern Ireland in 2011/12 was outlined. Overall, 83% of the total costs reported are from the actual information returns, with 17% of costs due to the extrapolation exercise. This reflects the high response rate in the data collection exercise.

# 4 *Branch costs*

## *Introduction*

This chapter reports the analysis of the information provided in the branch information return. It provides the branch operating costs for each cost category and each pharmacy type. The total branch cost for community pharmacy services in Northern Ireland is presented. The total HSC cost for each pharmacy type is also presented.

The chapter has 6 sections as listed below:

- Staff costs
- Property costs
- Other branch costs
- Depreciation
- Branch costs by location
- Summary

## *Staff costs*

This section examines staff costs and consists of the following sub sections:

- Staff costs per role
- Total staff costs in Northern Ireland
- Analysis of staff activity

### *Staff costs per role*

This section examines the staff costs for each role in providing community pharmacy services and consists of the following sub sections:

- Percentage of staff costs by role
- Number of staff per role (FTE)
- Calculated staff costs per role by branch type
- The share of HSC / non HSC costs by role

#### ***Percentage of staff costs by role***

Staff costs make up the largest percentage of operating costs for community pharmacy branches in Northern Ireland (58% of total branch costs). The pharmacist role makes up the largest proportion of the staff costs (27.3%) followed by dispensers/dispensing assistants (19.4%) and then sales assistants (10.6%).

Table 4.1 shows the percentages of total staff costs by role for each pharmacy type. For Independent Contractors the three largest staff costs are for pharmacists at 32.5% of staff costs, followed by dispensing assistants (20.2%) and locums (9.2%). For Small Chains, pharmacists are again the largest staff cost at 32.3%, followed by dispensing assistants (15.8%) and pre-reg students (11.8%). For Multiples, pharmacists are the largest staff cost at 22.9% of costs, followed by dispensing assistants (19.6%) and other sales assistants (13.5%).

Table 4.1 reports that Multiples have a different mix of staff roles based on their proportion of total staff costs compared to Independents and Small Chains.

**Table 4.1: Percentage of staff costs by role**

	Overall	Independent Contractors	Small Chains	Multiples
Pharmacists	27.3%	32.5%	32.3%	22.9%
Locums	7.4%	9.2%	7.4%	6.3%
Branch Managers	7.1%	2.2%	6.0%	10.5%
Healthcare Assistants	9.6%	7.5%	7.4%	11.3%
Pre-reg Students	6.2%	7.7%	11.8%	4.1%
Pharmacy Technician	5.3%	7.5%	8.7%	3.2%
Dispensers / Dispensing Assistants	19.4%	20.2%	15.8%	19.6%
Other sales Assistants	10.7%	8.5%	3.7%	13.5%
Prescription / Collection Delivery Drivers	2.0%	1.2%	2.1%	2.4%
Administrative assistants	1.1%	2.1%	2.5%	0.2%
Cleaners	0.1%	0.3%	0.0%	0.0%
Other <sup>19</sup>	3.9%	1.0%	2.4%	6.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: PwC analysis of online information returns

### **Number of staff per role (FTE)**

Table 4.2 provides the average number of FTE staff for each role by pharmacy type. Overall, Independent Contractors and Small Chains have a similar number of FTE staff (including non-employees) of 6.10 and 6.38 respectively, but Multiples have a higher number of 9.56 per branch.

Notable differences across categories include the following:

- For branch managers Multiples have 0.60 FTE staff but Independent Contractors and Small Chains only have 0.13 and 0.29 FTE staff respectively.
- For healthcare assistants, Multiples have 1.54 FTE staff, but Independent Contractors and Small Chains only have 0.59 and 0.68 FTE staff respectively.
- Another role where Multiples have a higher number is other sales assistants where they have 1.84 FTE staff compared to 0.76 and 0.35 FTE staff for Independent Contractors and Small Chains respectively.
- Small Chains have more pre-reg students, 0.91 FTE staff compared to 0.55 and 0.42 FTE staff for Independent Contractors and Multiples.
- Multiples have less pharmacy technicians, 0.32 FTE compared to 0.53 and 0.70 FTE for Independent Contractors and Small Chains.

<sup>19</sup> Other staff roles include but are not limited to the following roles: pharmacist manager, team manager, hair, perfume and beauty consultants, photo processing consultant, I.T. / administration staff, purchasing manager, and casual/holiday cover. The full list of roles and allocations to HSC and non HSC is provided in Appendix L. It should be noted a description was required for each other staff role entered before the person completing the return could move on to the next question. This information was sense checked as part of the data validation exercise.

- Numbers also vary across dispensers/dispensing assistants, Small Chains have the smallest number at 1.39 FTE, Independent Contractors next at 1.63 FTE and Multiples are higher again at 2.30 FTE staff.

**Table 4.2: Average number of FTE staff per role**

	Overall	Independent Contractors	Small Chains	Multiples
Pharmacists	1.13	1.13	1.23	1.09
Locums	0.42	0.38	0.33	0.49
Branch Managers	0.36	0.13	0.29	0.60
Healthcare Assistants	1.02	0.59	0.68	1.54
Pre-reg Students	0.54	0.55	0.91	0.42
Pharmacy Technician	0.46	0.53	0.70	0.32
Dispensers / Dispensing Assistants	1.90	1.63	1.39	2.30
Other sales Assistants	1.19	0.76	0.35	1.84
Prescription / Collection Delivery Drivers	0.21	0.11	0.18	0.31
Administrative assistants	0.09	0.16	0.12	0.01
Cleaners	0.01	0.03	0.00	0.00
Others <sup>20</sup>	0.35	0.09	0.20	0.64
<b>Total</b>	<b>7.67</b>	<b>6.10</b>	<b>6.38</b>	<b>9.56</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

<sup>20</sup> Other staff roles include but are not limited to the following roles: pharmacist manager, team manager, hair, perfume and beauty consultants, photo processing consultant, I.T. / administration staff, purchasing manager, and casual/holiday cover. The full list of roles and allocations to HSC and non HSC is provided in Appendix L. It should be noted a description was required for each other staff role entered before the person completing the return could move on to the next question. This information was sense checked as part of the data validation exercise.

### **Calculated staff costs per role by branch type**

Table 4.3 shows the total staff costs for each role which were calculated based upon the information provided by contractors in the information returns.

**Table 4.3: Indicative total staff cost for Northern Ireland<sup>21</sup>**

	<b>Overall</b>	<b>Independent Contractors</b>	<b>Small Chains</b>	<b>Multiples</b>
Pharmacists	£20,419,680	£8,574,152	£2,520,080	£9,325,448
Locums	£5,542,648	£2,418,334	£576,659	£2,547,655
Branch Managers	£5,318,202	£590,814	£468,104	£4,259,285
Healthcare Assistants	£7,161,582	£1,971,999	£578,483	£4,611,100
Pre-reg Students	£4,613,623	£2,037,545	£919,113	£1,656,964
Pharmacy Technician	£3,954,633	£1,984,827	£677,435	£1,292,370
Dispensers / Dispensing Assistants	£14,543,709	£5,325,926	£1,235,025	£7,982,758
Other sales Assistants	£8,013,031	£2,236,857	£285,883	£5,490,291
Prescription / Collection Delivery Drivers	£1,476,490	£329,104	£164,201	£983,185
Administrative assistants	£826,479	£557,871	£191,152	£77,457
Cleaners	£73,511	£69,081	£0	£4,430
Other	£2,949,000	£264,291	£185,845	£2,498,863
<b>Total</b>	<b>£74,892,587</b>	<b>£26,360,802</b>	<b>£7,801,980</b>	<b>£40,729,805</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

Additionally contractors reported costs of £1.3 million for non-employees<sup>22</sup> not recorded on the staff payroll. 96% of the non-employee costs came from Independent Contractors, 3% from Small Chains and 1% from Multiples.

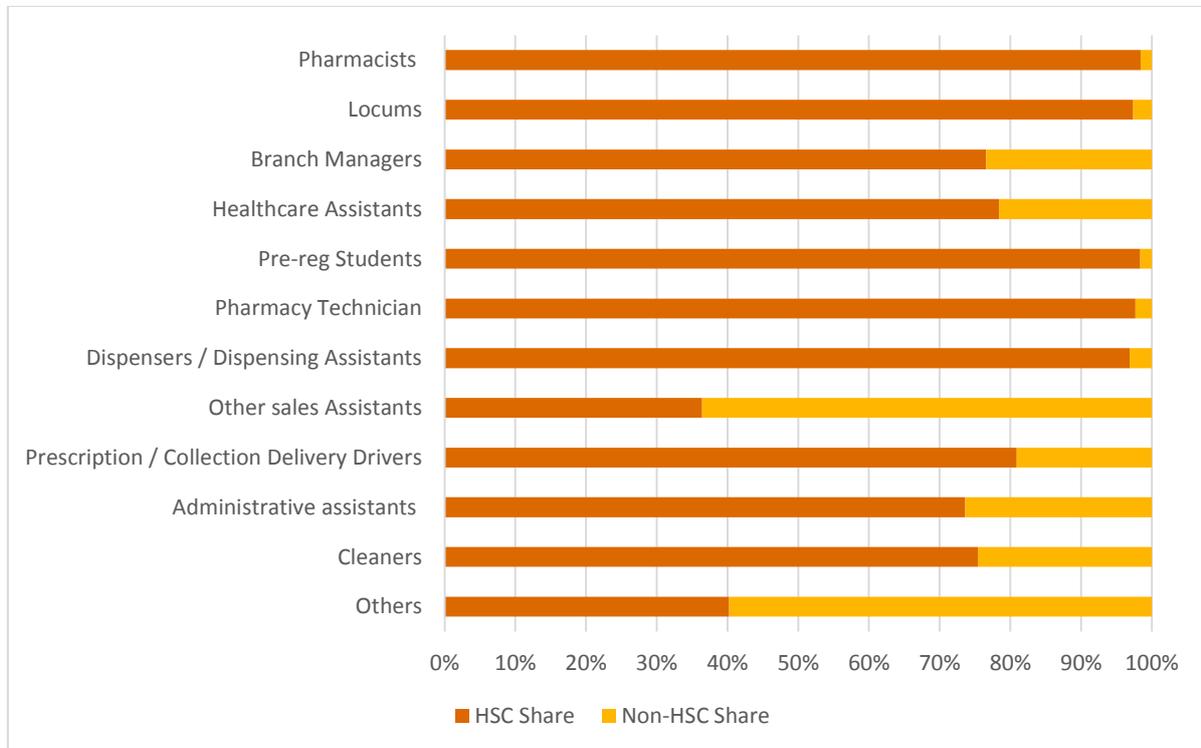
<sup>21</sup> The costs presented in this table are calculated from the information provided in the information returns where contractors were asked to complete questions on the wages and time of staff in each role. It should be noted that the total reported costs from the branch accounts are used to report the final staff costs throughout the rest of the report. Staff cost by role is not reported in the branch accounts.

<sup>22</sup> Where details were provided on non-employees, Independent Contractors indicated that family members were providing the inputs related to this cost.

### Share of HSC / non HSC costs by role

Using the FAC approach as described in Chapter 2, the share of costs for each staff role that are allocated as HSC costs are shown in Figure 4.1 and for each category of community pharmacies in Table 4.4.

**Figure 4.1: Percentage of costs allocated to HSC per role**



Source: PwC analysis of online information returns

**Table 4.4: Percentage of costs allocated to HSC per role**

	Overall	Independent Contractors	Small Chains	Multiples
Pharmacists	98.4%	96.5%	99.5%	99.9%
Locums	97.4%	97.0%	98.8%	97.4%
Branch Managers	76.6%	85.7%	92.5%	73.6%
Healthcare Assistants	78.4%	76.9%	74.1%	79.6%
Pre-reg Students	98.4%	97.2%	99.4%	99.3%
Pharmacy Technician	97.7%	97.8%	96.2%	98.2%
Dispensers / Dispensing Assistants	96.9%	93.8%	94.9%	99.2%
Other sales Assistants	36.4%	47.6%	34.9%	31.9%
Prescription / Collection <sup>23</sup> Delivery Drivers	80.9%	71.7%	82.4%	83.7%
Administrative assistants	73.6%	76.1%	68.7%	67.9%
Cleaners	75.4%	80.2%	0.0%	0.0%
Others	40.2%	90.0%	76.5%	32.3%
<b>Total</b>	<b>85.0%</b>	<b>89.5%</b>	<b>92.1%</b>	<b>80.7%</b>

Source: PwC analysis of online information returns

Overall at a “per branch” level 85.0% of staff costs were allocated to HSC. Branches in the Small Chains category had the highest proportion of costs allocated to HSC at 92.1%, followed by Independent Contractors at 89.5% and Multiples at 80.7%. For most staff roles, the allocation of costs to HSC is similar across the different categories of pharmacy, e.g. pharmacists, pre-reg students and dispensing assistants have similar percentages across different pharmacy categories. There are, however, some exceptions:

- Small Chains allocated 92.5% of costs for branch managers to HSC compared to 86.6% and 73.6% respectively for Independent Contractors and Multiples.
- For the other sales assistants’ role, allocation to HSC varied across all 3 categories, 47.6% for Independent Contractors, 34.9% for Small Chains and 31.9% for Multiples.
- For the prescription / collection delivery driver role, allocation to HSC was lower for Independent Contractors at 71.7% compared to 82.4% for Small Chains and 83.7% for Multiples.
- Both Small Chains and Multiples provided low costs for cleaners (less than £5,000 in total) and allocated under 1% to HSC whereas Independent Contractors allocated 80.2% of cleaner costs to HSC.

<sup>23</sup> DoH has noted that collecting/delivering prescriptions is not a HSC commissioned service, but the delivery of oxygen is. It should be noted that the HSC cost allocation under the CoSI methodology is shown to be higher than the HSC fees paid to contractors for oxygen delivery.

- There was a large difference in allocation for the Other role with Independent Contractors allocating 90.0% of the others costs to HSC, Small Chains 76.5% and Multiples 32.3%.

In order to calculate the actual total value of staff costs in NI and allocate those costs into HSC and non-HSC, the total percentage allocated to HSC and non-HSC for each branch were applied to the actual values of staff costs captured in the information returns for each branch (i.e. the staff costs reported in the accounts of contractors).

### *Total staff costs in Northern Ireland*

This section of the chapter consists of the following sub sections:

- Average HSC and non-HSC staff costs per branch
- Total HSC and non-HSC staff costs in Northern Ireland

#### **Average HSC and non-HSC staff costs per branch**

The HSC staff payroll costs are on average £120,504 per community pharmacy branch. Staff costs at a per branch level differ between pharmacy types as shown in Table 4.5. HSC staff costs are lowest for Independent Contractors at £89,437, with Small Chains higher at £108,656 and Multiples higher again at £154,025.

The non-employee HSC costs per branch are £2,039 overall, for Independent Contractors costs £4,520, for Small Chains £512 and Multiples £36. If these figures were included in the average figures then the average HSC costs are £122,543 overall, £93,957 for Independent Contractors, £109,168 for Small Chains and £154,061 for Multiples.

**Table 4.5: Average payroll staff costs allocated to HSC and non-HSC by branch type (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Total</b>	£144,327	£100,852	£117,892	£193,927
<b>HSC</b>	£120,504	£89,437	£108,656	£154,025
<b>Non-HSC</b>	£23,823	£11,415	£9,237	£39,902

*Source: PwC analysis of online information returns*

*Note: The figures may not add up to the total due to rounding*

#### **HSC and non-HSC staff costs in Northern Ireland**

Table 4.6 reports the total staff costs for community pharmacy services in Northern Ireland. It also shows the make-up of total staff costs between payroll staff costs and non-employee costs. It shows the HSC total staff costs based upon figures reported in Table 4.4. The total values presented in this section are for all 535 pharmacies in NI in 2011/12. This total value was calculated by extrapolating the total costs from pharmacies who completed the information returns (411). The average cost for each branch type was used to provide the total cost in each category.

The funding provided by HSCB for pre-registration students is also subtracted from the total HSC costs.

**Table 4.6: Total of staff costs allocated into HSC and non-HSC (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Total</b>	£77,215,165	£23,397,554	£7,662,984	£46,154,626
<b>HSC total</b>	£64,469,903	£20,749,363	£7,062,608	£36,657,932
<b>Non-HSC total</b>	£12,745,263	£2,648,192	£600,377	£9,496,694
<b>Pre-registration student funding</b>	(£3,591,000)	(£1,290,859)	(£753,393)	(£1,546,748)
<b>HSC Net Total</b>	£60,878,903	£19,458,504	£6,309,215	£35,111,184

Source: PwC analysis of online information returns

Note: HSC payroll costs are calculated from the staff costs reported in the branch accounts multiplied by the weighted average HSC percentage for each branch calculated from the information returns.

Note: The figures may not add up to the total due to rounding.

As Table 4.6 shows, the total HSC staff cost for community pharmacies in NI was £64,469,903 before the pre-registration student funding is deducted, the total net HSC staff cost was £60,878,903.

Non-employee HSC costs were to the value of £1.1 million and if included in the total then the total net HSC staff cost would be £61,969,503.

### *Analysis of staff activity*

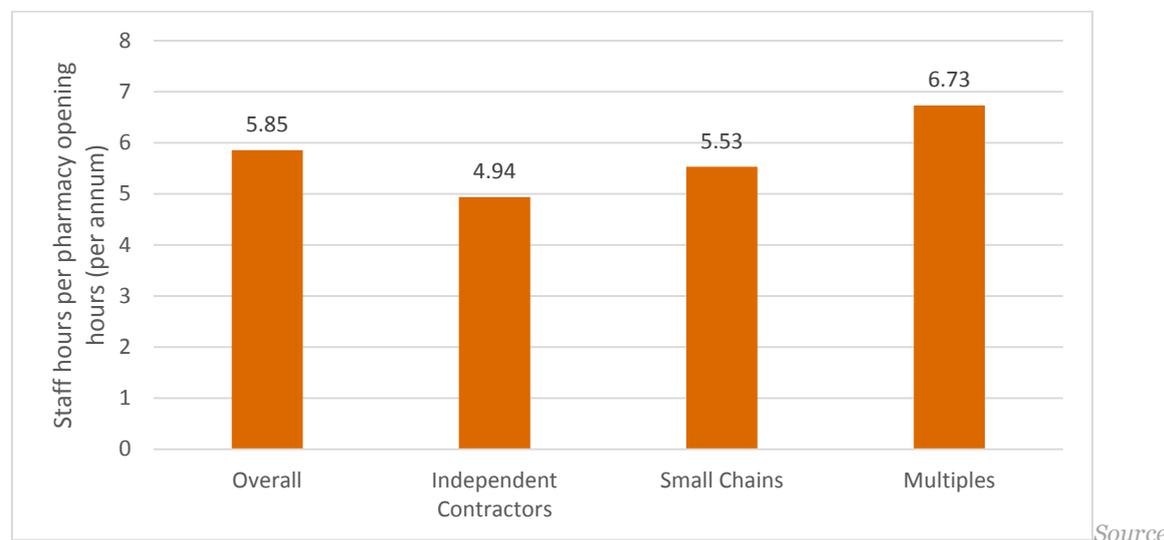
This section examines staff activity and consists of the following sub sections:

- Staff level by branch type
- Annual dispensing items per branch
- Dispensing items per staff member per hour

### Staff level by branch type

Figure 4.2 illustrates the average number of staff working for each hour that the pharmacy is open. Multiples on average have the highest FTE value of 6.73, which is 36% higher than the FTE value for Independent Contractors at 4.94.

**Figure 4.2: Analysis of staff levels by type (no. staff per hour)**



PwC analysis of online information returns

### Annual Dispensing items per branch

Table 4.7 outlines the average number of prescription items dispensed in 2011/12 across each pharmacy type. On average the branches belonging to multiples dispensed 8% more items compared to branches belonging to Independent Contractors and 1% more items compared to branches belonging to Small Chains.

**Table 4.7: Average number of dispensing items per annum per branch**

	Overall	Independent Contractors	Small Chains	Multiples
Ordinary dispensing	70,607	66,393	72,025	73,402
Multiple	16,324	16,489	16,327	16,157
<b>Total</b>	<b>86,931</b>	<b>82,883</b>	<b>88,352</b>	<b>89,559</b>

Source: PwC analysis of BSO data and information returns

Note: The figures may not add up to the total due to rounding

Table 4.8 provides the breakdown of items by ordinary and multiple dispensing. 81.2% of items were ordinary dispensing items and 18.8% were multiple dispensing items. Branches belonging to the Multiples dispensed the most items on average followed by Independent Contractors and Small Chains.

**Table 4.8: Average percentage of dispensing items per annum per branch**

	Overall	Independent Contractors	Small Chains	Multiples
Ordinary dispensing	81.2%	80.1%	81.5%	82.0%
Multiple	18.8%	19.9%	18.5%	18.0%

### Dispensing items per staff member per hour

Table 4.9 shows the average number of prescription items dispensed per hour that the pharmacy branch is open. Figure 4.3 shows that Small Chains dispense the highest volume of items per hour, which is 16% per cent higher than the volume of items dispensed by Independent Contractor branches and 20% higher than branches belonging to the Multiples.

**Table 4.9: Average number of items dispensed per branch per open hour**

	Overall	Independent Contractors	Small Chains	Multiples
Ordinary dispensing	27.3	26.6	31.7	26.5
Multiple	6.3	6.6	7.2	5.8
<b>Total</b>	<b>33.6</b>	<b>33.2</b>	<b>38.9</b>	<b>32.3</b>

Source: PwC analysis of BSO data and information returns

Note: The figures may not add up to the total due to rounding

### Property costs

This section examines property costs and is divided into the following sub sections:

- Rent information collected in the CoSI
- Total property costs and average property cost per branch

#### Rent information collected in the CoSI

There were two approaches taken to collect the annual rent costs for community pharmacy branches in Northern Ireland in the information returns. The first was for properties that were rented. For these branches the value of the actual rent paid was collected. The second was for branch properties that were owned by the contractors. In this case contractors were asked to provide an estimate of the market rent for the property and that value was collected in the information returns.

Table 4.10 reports the average rent paid and average rent estimated for branches. The average rent paid was 58% higher than the estimated rent. A weighted average rent was calculated, which was used to provide the rent to estimate the cost of rent for branches that did not complete the information return.

**Table 4.10: Reported types of rent data**

	Total	Independent Contractors	Small Chains	Multiples
Actual rent - (number of branches)	305	82	36	187
Actual rent per branch (value)	£34,295	£15,577	£18,448	£45,553
Estimated rent - number of branches	106	57	13	36
Estimated rent per branch (value)	£21,736	£20,654	£14,031	£25,995
Average rent per branch (value)	£27,937	£17,453	£17,180	£41,095

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

## Total property costs

This section examines the total property cost and consists of the following sub sections

- Total property costs and average property costs per branch
- Breakdown of property costs by branch type
- Allocation of property costs into HSC and non HSC

### Total property costs and average property costs per branch

The largest property cost is rent, but other property costs include business rates, utilities, and property insurance as well as repair and maintenance costs.

Table 4.11 shows the breakdown of the total property costs for community pharmacy services in Northern Ireland by the different categories of property costs.

**Table 4.11: Total property costs (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Rent	£14,946,411	£4,049,029	£1,116,725	£9,780,657
Business rates	£5,546,201	£1,161,805	£413,206	£3,971,191
Utilities	£3,671,286	£1,356,472	£302,863	£2,011,952
Property insurance	£533,883	£267,188	£117,223	£149,472
Repairs and maintenance	£2,782,228	£818,187	£195,189	£1,768,851
<b>Total</b>	<b>£27,480,009</b>	<b>£7,652,681</b>	<b>£2,145,206</b>	<b>£17,682,122</b>

Source: PwC analysis of online information returns

The figures may not add up to the total due to rounding

Table 4.12 shows the average property costs for each branch type split by the differing categories of property costs.

**Table 4.12: Average property costs per branch (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Rent	£27,937	£17,453	£17,180	£41,095
Business rates	£10,367	£5,008	£6,357	£16,686
Utilities	£6,862	£5,847	£4,659	£8,454
Property insurance	£998	£1,152	£1,803	£628
Repairs and maintenance	£5,200	£3,527	£3,003	£7,432
<b>Total</b>	<b>£51,365</b>	<b>£32,986</b>	<b>£33,003</b>	<b>£74,295</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

### Breakdown of property costs by branch type

From Table 4.13 we can see that on average rent comprises 54.4% of property costs. The second highest cost is business rates, at 20.2% on average. Utilities alongside repairs and maintenance costs also tend to make up a considerable cost, at 13.4% and 10.1% on average respectively.

Multiples pay a higher share of their property costs in the form of rent and business rates and a lower share on property insurance and utilities, compared to the other two branch types.

**Table 4.13: Percentage breakdown of property costs per branch by category (£)**

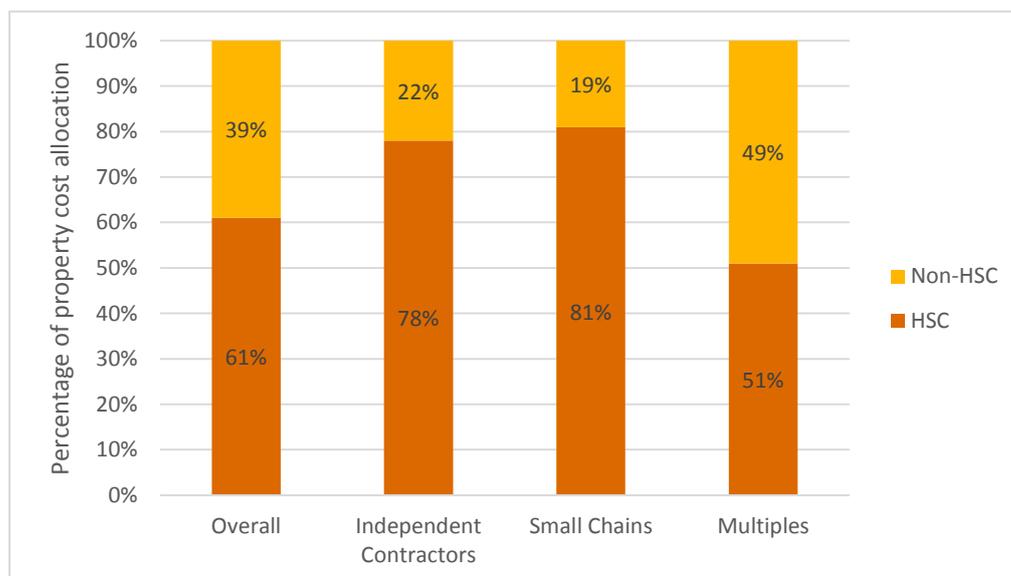
	Overall	Independent Contractors	Small Chains	Multiples
Rent	54.4%	52.9%	52.1%	55.3%
Business rates	20.2%	15.2%	19.3%	22.5%
Utilities	13.4%	17.7%	14.1%	11.4%
Repairs and maintenance	10.1%	10.7%	9.1%	10.0%
Property insurance	1.9%	3.5%	5.5%	0.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

### Allocation of property costs into HSC and non HSC

For the purposes of this CoSI, the property costs for community driven pharmacies were treated as common and split into HSC and non-HSC based on the EPMU approach as outlined in Chapter 2. Some pharmacies were identified as retail driven, based on analysis of the information provided in the information returns, and their property costs were allocated according to the percentage of their revenue that was identified as HSC related. Branches<sup>24</sup> that had 50% of their revenue coming from non HSC were categorised as retail driven pharmacies and their property costs were allocated based on the share of revenue between HSC and non HSC.

**Figure 4.4: Allocation of property costs into HSC and non-HSC per group (%)**



Source: PwC analysis of online information returns

<sup>24</sup> In total 44 branches were identified as retail driven pharmacies in this CoSI.

Multiples have a lower share of HSC property costs compared to Independent Contractors and Small Chains respectively. On average 61% of property costs are allocated to HSC.

**Table 4.14: Total HSC and non-HSC property costs by category (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>HSC property costs:</b>				
Rent	£8,987,615	£3,279,722	£906,342	£4,801,551
Business rates	£3,088,830	£901,037	£334,703	£1,853,089
Utilities	£2,522,612	£1,071,961	£242,250	£1,208,400
Property insurance	£421,223	£212,217	£98,603	£110,403
Repairs and maintenance	£1,894,195	£640,275	£160,729	£1,093,192
<b>HSC Total</b>	<b>£16,914,474</b>	<b>£6,105,213</b>	<b>£1,742,628</b>	<b>£9,066,633</b>
<b>Non-HSC property costs:</b>				
Rent	£5,958,796	£769,307	£210,383	£4,979,106
Business rates	£2,457,371	£260,767	£78,502	£2,118,102
Utilities	£1,148,674	£284,510	£60,612	£803,552
Property insurance	£112,660	£54,970	£18,620	£39,069
Repairs and maintenance	£888,033	£177,913	£34,461	£675,659
<b>Non-HSC Total</b>	<b>£10,565,535</b>	<b>£1,547,468</b>	<b>£402,578</b>	<b>£8,615,489</b>

Source: PwC analysis of online information returns

The figures may not add up to the total due to rounding

**Table 4.15: Average HSC and non-HSC property costs per branch by category (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>HSC property costs:</b>				
Rent	£16,799	£14,137	£13,944	£20,175
Business rates	£5,774	£3,884	£5,149	£7,786
Utilities	£4,715	£4,621	£3,727	£5,077
Property insurance	£787	£915	£1,517	£464
Repairs and maintenance	£3,541	£2,760	£2,473	£4,593
<b>Total HSC average</b>	<b>£31,616</b>	<b>£26,316</b>	<b>£26,810</b>	<b>£38,095</b>
<b>Non- HSC property costs:</b>				
Rent	£11,138	£3,294	£3,237	£20,921
Business rates	£4,593	£1,113	£1,208	£8,900
Utilities	£2,147	£1,210	£932	£3,376
Property insurance	£211	£235	£286	£164
Repairs and maintenance	£1,660	£779	£530	£2,839
<b>Total non-HSC average</b>	<b>£19,749</b>	<b>£6,630</b>	<b>£6,194</b>	<b>£36,200</b>

Source: PwC analysis of online information returns

The figures may not add up to the total due to rounding

Table 4.15 shows that Multiples are allocated the largest HSC costs across all of the different components of property costs, apart from property insurance where Small Chains have the highest cost. This reflects the higher cost base for Multiples. Small Chains and Independent Contractors are allocated similar branch level HSC property costs.

## Other branch costs

This section examines the other branch costs and is divided into the following sub sections:

- Analysis of other costs
- Other costs by sub-category by percentage
- Total and average other costs values
- Allocation of other costs to HSC

### Analysis of other costs

The information returns asked respondents to provide details of any “other costs” that were not staff, property or depreciation costs. The costs included professional fees, insurances, advertising and marketing costs, transport costs or any other costs that did not fit into any of the given categories. Where possible, these costs have been categorised and a breakdown is provided in table 4.16.

In conducting the analysis of the other branch costs, it was discovered that 71% of the other branch costs were initially categorised as “other” and no further information was provided. A number of follow up calls and emails were undertaken with contractors to gain more information on these other costs and how they could be categorised.

The label “Uncategorised branch costs” is used to refer to the costs that pharmacies could not allocate to any of the other cost sub-categories in the information returns, nor was there enough details in their accounts in order for the costs to be allocated to a different sub-category. In order to allocate these “uncategorised” costs into HSC and non HSC, further analysis of these costs would be required.

### *Other costs by sub-category by percentage*

Table 4.16 provides the percentage of other costs for each pharmacy branch by sub category. Only the top ten cost categories by value are included in each table and the rest are included under the “Non-Top 10 categories” line, this category includes costs such as public liability insurance, and stocktaking fees. A full list of costs that fall under this category can be found in Appendix F. Overall, Stock obsolescence is the highest other branch cost at 18.2% followed by Retail Distribution (13.9%) and Professional fees (10.0%). Notably for Multiples however, Retail Distribution costs makes up the largest proportion of other costs at 24.9%

**Table 4.16: Percentage average other branch costs per branch by category (£)**

*Source: PwC analysis of online information returns*

	Overall	Independent Contractors	Small Chains	Multiples
Stock Obsolescence	18.2%	19.6%	20.8%	16.8%
Retail Distribution	13.9%	0.0%	0.0%	24.9%
Professional fees	10.0%	14.2%	10.4%	7.4%
Uncategorised Branch Costs	8.9%	12.8%	20.7%	4.4%
Transport costs	6.7%	12.6%	5.9%	3.4%
IT related costs	4.6%	4.3%	3.8%	4.9%
Advertising and marketing costs	4.4%	4.2%	5.6%	4.3%
Printing, stationary and packing	4.1%	3.0%	1.9%	5.2%
Total professional body subscriptions	3.6%	6.0%	4.3%	1.9%
Bank Charges	3.4%	3.8%	4.1%	3.0%
Non-Top 10 categories	22.3%	19.6%	22.6%	23.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Note: The figures may not add up to 100% due to rounding*

### *Total and average other costs values*

Table 4.17 shows the total value of other branch costs in Northern Ireland. Only the top 10 sub-categories by value are shown in the table, but the total value is for all other branch costs. The total other branch costs overall were £23,974,251.

**Table 4.17: Total other branch costs in Northern Ireland (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Stock Obsolescence <sup>25</sup>	£4,351,691	£1,578,784	£516,318	£2,256,590
Retail Distribution	£3,343,280	£-	£-	£3,343,280
Professional fees	£2,389,054	£1,142,114	£258,591	£988,349
Uncategorised Branch Costs	£2,133,258	£1,026,941	£514,301	£592,016
Transport costs	£1,613,104	£1,011,238	£147,503	£454,363
IT related costs	£1,094,068	£345,802	£93,402	£654,865
Advertising and marketing costs	£1,054,744	£338,292	£139,347	£577,105
Printing, stationary and packing	£991,236	£241,027	£46,163	£704,046
Total professional body subscriptions	£853,927	£486,443	£106,215	£261,269
Bank Charges	£805,203	£305,207	£101,943	£398,053
Non-top 10 Categories	£5,344,685	£1,576,154	£562,871	£3,205,660
<b>Total</b>	<b>£23,974,251</b>	<b>£8,052,001</b>	<b>£2,486,655</b>	<b>£13,435,595</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

Table 4.18 shows the other branch costs at the per branch level for the top 10 sub-categories by value. The costs for Multiples are £56,452 compared to £38,256 for Small Chains and £34,707 for Independent Contractors. Other branch costs for Multiples are 63% higher than for Independent Contractors and 48% higher than Small Chains.

Stock obsolescence is the highest other branch cost at an overall level at £8,134 per branch. It is the highest other branch cost for Small Chains and Independent Contractors. The highest other branch cost for Multiples is Retail at £14,047.

<sup>25</sup> The stock obsolescence cost is included in the total cost, but DoH has requested that it is not allocated to HSC or non HSC in this report and that the treatment of this cost will be agreed outside of the CoSI. This is on the basis that at the time of finalising the CoSI methodology, HSCB's agreement to treat stock obsolescence as a common cost was dependent on the magnitude of the cost. Due to the size of the cost HSCB has flagged up their earlier reservations on the allocation to common. The allocation to HSC was estimated to be £2.33 million and the allocation to non HSC was estimated to be £2.02 million based on the data collected in the information returns.

**Table 4.18: Average other branch costs per branch (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Stock Obsolescence	£8,134	£6,805	£7,943	£9,481
Retail Distribution	£6,249	£-	£-	£14,047
Professional fees	£4,466	£4,923	£3,978	£4,153
Uncategorised Branch Costs	£3,987	£4,426	£7,912	£2,487
Transport costs	£3,015	£4,359	£2,269	£1,909
IT related costs	£2,045	£1,491	£1,437	£2,752
Advertising and marketing costs	£1,971	£1,458	£2,144	£2,425
Printing, stationary and packing	£1,853	£1,039	£710	£2,958
Total professional body subscriptions	£1,596	£2,097	£1,634	£1,098
Bank Charges	£1,505	£1,316	£1,568	£1,672
Non-top 10 Categories	£9,990	£6,794	£8,660	£13,469
<b>Total</b>	<b>£44,812</b>	<b>£34,707</b>	<b>£38,256</b>	<b>£56,452</b>

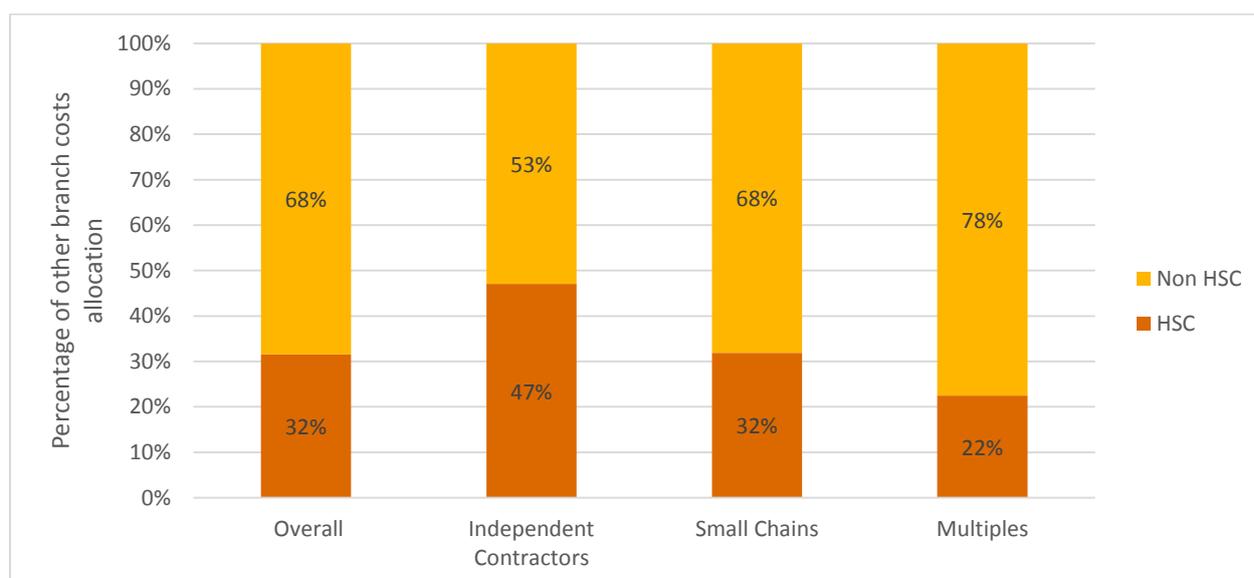
Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

### Allocation of other costs to HSC

The allocation of other costs to HSC or non-HSC was conducted on a sub-category basis. The allocations were agreed by the EG. Figure 4.5 shows the split of the “Other branch costs” between HSC and non-HSC costs. Independent Contractors had the highest share of HSC other branch costs at 47%, followed by Small Chains at 32% and Multiples at 22%.

**Figure 4.5: Allocation of other branch costs into HSC and non-HSC (%)**



Source: PwC analysis of online information returns

Table 4.19 reports the total HSC and non-HSC other branch costs for community pharmacy services in Northern Ireland. Only the top 10 sub-categories by value are shown in the table. The stock

obsolescence cost of £4.35 million was not allocated to HSC or non-HSC. It should be noted that the treatment of these costs needs to be considered outside of the CoSI.

**Table 4.19: Total HSC and non-HSC other branch costs for NI population (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>HSC other branch costs:</b>				
Professional fees	£1,877,463	£928,969	£209,088	£739,406
Transport costs (e.g. delivery vans)	£1,261,661	£819,766	£116,317	£325,579
Total professional body subscriptions	£853,927	£486,443	£106,215	£261,269
IT related costs	£752,513	£286,753	£69,889	£395,871
Cleaning	£287,628	£25,344	£3,292	£258,993
Professional indemnity insurance (PII)	£264,935	£164,147	£49,673	£51,115
Theft Prevention	£263,467	£30,177	£ -	£233,290
Other insurance	£207,778	£20,798	£8,895	£178,085
Staff Training Costs	£148,703	£70,913	£41,667	£36,122
Public liability insurance	£146,420	£89,377	£22,697	£34,346
Non-top 10 Categories	£124,717	£123,766	£327	£624
<b>Total HSC other branch costs</b>	<b>£6,189,213</b>	<b>£3,046,453</b>	<b>£628,060</b>	<b>£2,514,700</b>
<b>Non-HSC other branch costs:</b>				
Retail Distribution	£3,343,280	£ -	£ -	£3,343,280
Uncategorised Branch Costs <sup>26</sup>	£2,133,258	£1,026,941	£514,301	£592,016
Advertising and marketing costs <sup>27</sup>	£1,054,744	£338,292	£139,347	£577,105
Printing, stationary and packing	£991,236	£241,027	£46,163	£704,046
Bank Charges	£805,203	£305,207	£101,943	£398,053
Goodwill Amortised	£765,617	£412,015	£353,603	£ -
General Expenses	£650,056	£258,677	£38,319	£353,060
Professional fees	£511,590	£213,144	£49,503	£248,942
Bad Debts	£488,194	£ -	£ -	£488,194
Point of Sale	£443,270	£ -	£ -	£443,270
Non-top 10 Categories	£2,246,899	£631,462	£99,098	£1,516,340
<b>Total Non-HSC other branch costs</b>	<b>£13,433,347</b>	<b>£3,426,765</b>	<b>£1,342,277</b>	<b>£8,664,305</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

<sup>26</sup> These costs are likely to contain both HSC and non HSC elements. Further information would be required to allocate this cost to HSC / non HSC.

<sup>27</sup> DoH instructed PwC that advertising and marketing costs should be allocated to non-HSC, rather than common as originally agreed in the Final COSI methodology paper. DoH has noted that advertising and marketing are not HSC commissioned services.

Table 4.20 shows the average HSC and non-HSC other branch costs for each pharmacy branch.

**Table 4.20: Average HSC and non-HSC other costs per branch (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>HSC other branch costs</b>				
Professional fees	£3,509	£4,004	£3,217	£3,107
Transport costs (e.g. delivery vans)	£2,358	£3,533	£1,789	£1,368
Total professional body subscriptions	£1,596	£2,097	£1,634	£1,098
IT related costs	£1,407	£1,236	£1,075	£1,663
Cleaning	£538	£109	£51	£1,088
Professional indemnity insurance (PII)	£495	£708	£764	£215
Theft Prevention	£492	£130	£ -	£980
Other insurance	£388	£90	£137	£748
Staff Training Costs	£278	£306	£641	£152
Public liability insurance	£274	£385	£349	£144
Non-top 10 Categories	£233	£533	£5	£3
<b>Total HSC other branch costs</b>	<b>£11,569</b>	<b>£13,131</b>	<b>£9,662</b>	<b>£10,566</b>
<b>Non-HSC other branch costs</b>				
Retail Distribution	£6,249	£ -	£ -	£14,047
Uncategorised Branch Costs	£3,987	£4,426	£7,912	£2,487
Advertising and marketing costs	£1,971	£1,458	£2,144	£2,425
Printing, stationary and packing	£1,853	£1,039	£710	£2,958
Bank Charges	£1,505	£1,316	£1,568	£1,672
Goodwill Amortised	£1,431	£1,776	£5,440	£0
General Expenses	£1,215	£1,115	£590	£1,483
Professional fees	£956	£919	£762	£1,046
Bad Debts	£913	£ -	£ -	£2,051
Point of Sale	£829	£ -	£ -	£1,862
Non-top 10 Categories	£4,200	£2,722	£1,525	£6,371
<b>Total non-HSC other branch costs</b>	<b>£25,109</b>	<b>£14,771</b>	<b>£20,650</b>	<b>£36,405</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

## Branch costs by location

This section examines the branch cost associated with different locations in Northern Ireland and consists of the following sub sections:

- Average HSC costs – Urban versus rural
- Average HSC costs - Belfast versus rest of Northern Ireland

### Average HSC costs – Urban versus rural

Pharmacy branches were allocated into urban and rural groups based on their postcode and the costs were calculated for each the different locations. Table 4.21 outlines the HSC cost for branches by location and category. Overall, urban pharmacies have higher HSC costs than those in rural areas as they have higher total costs. This is the case for Independent Contractors and Multiples.<sup>28</sup> It is also the case for all cost categories, staff, property, other branch and depreciation.

**Table 4.21: Average HSC costs per branch by location (£)**

	Rural			Urban		
	Overall	Independent Contractor	Multiple	Overall	Independent Contractor	Multiple
Staff Costs Total	£103,830	£80,062	£148,005	£140,769	£105,139	£156,569
Property Costs	£26,585	£24,102	£32,215	£36,370	£29,896	£39,471
Other Branch costs	£16,537	£17,842	£13,342	£18,529	£21,813	£16,438
<b>Total HSC Cost</b>	<b>£146,952</b>	<b>£122,006</b>	<b>£193,562</b>	<b>£195,667</b>	<b>£156,848</b>	<b>£212,479</b>

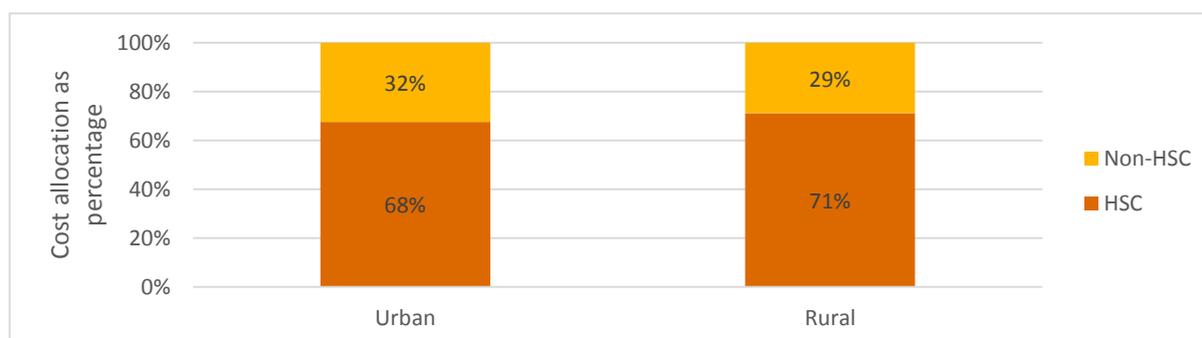
Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

Note: Due to data confidentiality concerns, the analysis is not presented for Small Chains

While they have lower total HSC costs, rural pharmacies have a higher share of HSC costs at 71% of their total costs compared to 68% for those in urban areas, as illustrated in Figure 4.6. All pharmacies categorised as Retail Driven fall under the urban category which may contribute to some of the difference in HSC costs.

**Figure 4.6: Average percentage of HSC and non-HSC costs per branch for urban and rural pharmacies (£)**



Source: PwC analysis of online information returns

<sup>28</sup> Analysis not possible for Small Chains due to small sample size and data confidentiality.

### Average HSC costs - Belfast versus rest of Northern Ireland

The difference in costs between pharmacy branches inside and outside of Belfast was also examined. On average, branches outside Belfast have higher total costs allocated to HSC than those in Belfast. Note HSC property costs for Multiples are higher in Belfast than in other areas.

**Table 4.22: Average HSC costs per branch by location (£)**

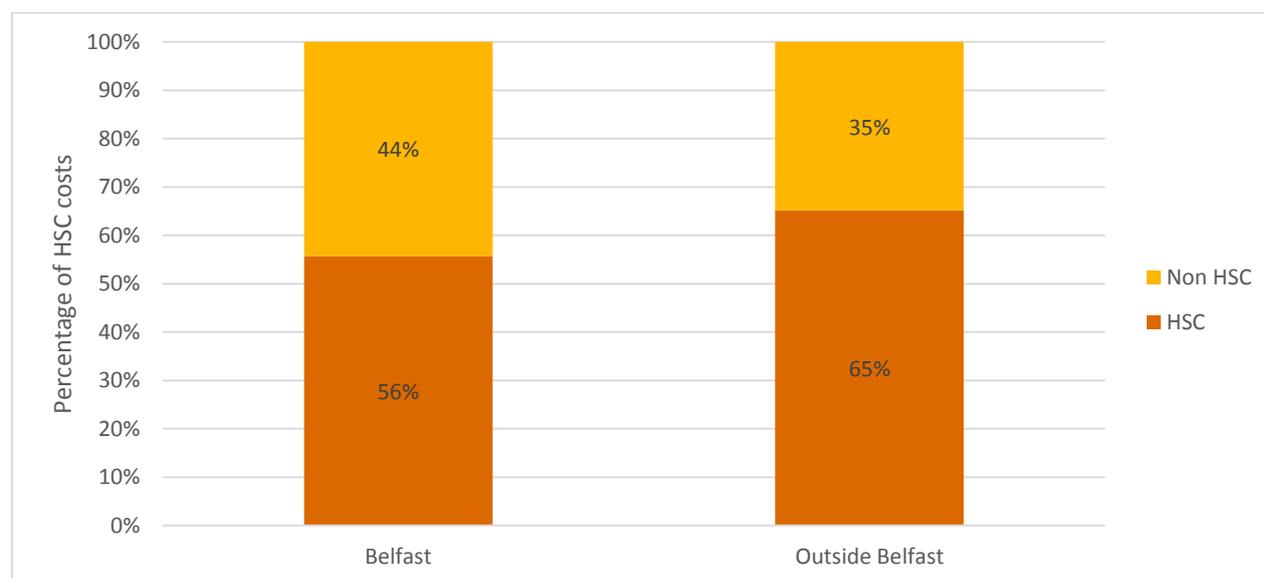
	Belfast	Outside Belfast
Staff Costs Total	£120,365	£130,448
Property Costs	£32,077	£33,369
Other Branch costs	£22,079	£25,464
<b>Total HSC Cost</b>	<b>£174,522</b>	<b>£189,281</b>

Source: PwC analysis of online information returns

Note: Due to data confidentiality concerns, the analysis is presented for the all respondents together only.

Branches in Belfast on average have 56% of their costs allocated to HSC compared to 65% for pharmacies outside of Belfast, an extra £14,759 per branch on average.

**Figure 4.7: Average percentage of HSC and non-HSC costs per branch for pharmacies in Belfast and outside Belfast (%)**



Source: PwC analysis of online information returns

## **Summary**

This chapter examined the costs categories that make up the branch operating costs for a community pharmacy, namely staff costs, property costs and other costs. It also compared the branch costs for pharmacies operating in different geographical locations.

### **Staff costs**

Total staff payroll costs for all community pharmacy branches in Northern Ireland were estimated to be £77,215,165. 60% of staff payroll costs were from branches belonging to the Multiples, with 30% from branches belonging to Independent Contractors and 10% from branches belonging to Small Chains

On average 85% of staff costs were allocated to HSC with the total staff payroll coming to £64,469,903 using the FAC approach. When the staff costs are adjusted for the funding provided for pre-registration students by HSCB, the HSC total staff cost is £60,878,903. Non HSC staff payroll costs totalled £12,745,263.

Non-employee staff costs were estimated to be £1,280,481. 85% of non-employee costs were allocated to HSC, which came to £1,090,600.

### **Property Costs**

Total property costs for community pharmacy branches were estimated to be £27,480,009. 64% of property costs were for branches belonging to the Multiples and they totalled £17,682,122. Rent was the largest component of property costs at 54% followed by business rates at 20%, utilities at 13% and repairs and maintenance at 10%. On average 61% of property costs were allocated to HSC. The total branch property cost allocated to HSC was £16,914,474.

78% of property costs for branches belonging to Independent Contractors were allocated to HSC, 51% of the branch property costs for Multiples were allocated to HSC and 81% of property costs for Small Chains were allocated to HSC. The majority of property costs were categorised as common costs and allocated as HSC or non-HSC using the EPMU approach. However, based on analysis of the information returns, any branch that received more than 50% of their revenue from non-HSC activities was classified as a retail driven branch and their property costs were allocated based on their revenue mix between HSC and non-HSC.

### **Other branch costs**

Total other branch costs (including uncategorised costs) were estimated to be £23,974,251. Stock obsolescence at 18% and Retail distribution at 14% were the two largest individual cost categories. Stock obsolescence costs are not allocated to HSC or non-HSC in this report. 22% of other costs were in categories outside of the top 10, which indicates a large number of other costs.<sup>29</sup> 9% of costs remained uncategorised and as such were allocated as non-HSC.

On average 32% of other costs were allocated to HSC. The total was £6,189,213. Branches belonging to Independent Contractors accounted for 25% of other costs, 65% were for branches of Multiples and 10% for branches of Small Chains.

### **Branch costs by location**

The average HSC cost for a branch operating in an urban location was 33% higher than for a branch operating in a rural location (£195,667 compared to £146,952), which reflects the greater share of Multiple branches in urban locations. In contrast the average HSC costs for branches outside of Belfast were 8% higher than for branches in Belfast (£189,281 compared to £174,522), as higher share of costs were allocated to HSC.

Chapter 10 summarises the total branch costs of pharmacies along with the owner costs, head office costs and the fair rate of return for each pharmacy type.

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<sup>29</sup> Further details on other costs are provided in Appendix F. It contains 17 other costs including IT related costs, general sundries and staff uniforms. The majority are non-HSC costs.

# 5 Owner costs

## Introduction

This chapter reports the analysis of the information provided in the owner information return. It provides the total owner remuneration that was recorded in the company accounts. It also reports the non-recorded payroll costs estimated to be incurred by the owner.

The chapter has 3 sub-sections. The sections are listed below:

- Owner costs
- Owner costs allocated to each branch
- Summary

## Owner costs

Owners' costs have been split into two main categories. Remuneration as per the accounts of the company and owner costs not on payroll. This section of the chapter looks at each type of owner cost in turn and how owner costs have been allocated to HSC. The section is structured as follows:

- Owner remuneration
- Owner costs not on payroll
- Total Owner cost and allocation to HSC

## Owner remuneration

Remuneration reflects the actual compensation owners receive for their work in the form of cash, shares, dividends, etc. The dividend that owners received is included when calculating the fair rate of return for a pharmacy, therefore dividends are excluded from the total owner cost figure that is presented later in this chapter. Although dividends are excluded from the owner salary for the purposes of this CoSI, they make up a large share of the remuneration for owners of Small Chains. Table 5.1 provides the total owner remuneration by category.

**Table 5.1: Total remuneration by category (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Salary	£4,883,493	£4,368,236	£310,971	£204,286
Dividends <sup>30</sup>	£4,275,014	£3,784,152	£490,862	£0
Rental payments to owner	£1,015,855	£597,121	£157,345	£261,390
Rental payments to partner/relative	£258,582	£56,487	£0	£202,095
Other	£1,476,742	£832,919	£81,578	£562,245 <sup>31</sup>
Drawings	£2,413,582	£2,413,582	£0	£0
<b>Total Remuneration</b>	<b>£14,323,268</b>	<b>£12,052,496</b>	<b>£1,040,756</b>	<b>£1,230,016</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

<sup>30</sup> Dividends and rental payments to owners are captured in the fair return and property cost sections. Therefore while they are presented in Table 5.1 (for the sake of completeness), they are excluded from final total remuneration calculations as noted later in Table 5.6.

<sup>31</sup> One pharmacy group in this category, put all owner remuneration into the other category as they were not able to break down the owner remuneration.

Table 5.2 provides the share of total owner remuneration by category. The largest portion of owner remuneration overall is salary (34.1%) and dividends (29.8%). For Small Chains rental payments to owner tend to be high as well, 15.1% of total owner remuneration. For Multiples 21.3% of remuneration is paid as rent to the owner and 16.4% is paid to a partner or relative.

**Table 5.2: Total remuneration by category (%)**

	Overall	Independent Contractors	Small Chains	Multiples
Salary	34.1%	36.2%	29.9%	16.6%
Dividends	29.8%	31.4%	47.2%	0.0%
Rental payments to owner	7.1%	5.0%	15.1%	21.3%
Rental payments to partner/relative	1.8%	0.5%	0.0%	16.4%
Other	10.3%	6.9%	7.8%	45.7%
Drawings	16.9%	20.0%	0.0%	0.0%
<b>Total Remuneration</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding*

Table 5.3 provides a split of owner remuneration based on the role they perform and what percentage of their time they allocate to it.

**Table 5.3: Total remuneration by role (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Owner / governance	£4,533,964	£3,886,777	£200,177	£625,216
Pharmacist	£4,778,831	£4,084,931	£359,171	£199,615
Manager	£785,044	£510,158	£111,545	£291,058
Business planning	£296,792	£234,746	£6,972	£114,127
Other <sup>32</sup>	£3,928,638	£3,335,884	£362,891	£0
<b>Total</b>	<b>£14,323,268</b>	<b>£12,052,496</b>	<b>£1,040,756</b>	<b>£1,230,016</b>

### *Owner costs not on payroll*

The owner costs not included on payroll represent inputs provided by the owner that are not reflected in the payroll costs. These costs are estimated by the owners and by their nature are not included in their accounts. If the owner had to pay a staff member for the input provided, then it would be an actual cost to the pharmacy, hence the information has been collected. Table 5.4 provides the breakdown of these costs by role.

<sup>32</sup> Some owners did not provide a breakdown of their time by activity. Instead they put all their time allocation to the other category and noted that this covers their owner activity across all of the roles. In addition, some owners reported their owner / governance activity in this category.

**Table 5.4: Total owner cost not on payroll by category in Northern Ireland (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Owner / governance	£2,630,361	£2,290,260	£119,601	£220,500
Pharmacist	£4,084,599	£3,598,719	£415,480	£70,400
Manager	£537,399	£319,569	£115,180	£102,650
Business planning	£184,100	£136,775	£7,075	£40,250
Other <sup>33</sup>	£2,308,302	£1,929,142	£379,160	£0
<b>Total</b>	<b>£9,744,761</b>	<b>£8,274,465</b>	<b>£1,036,496</b>	<b>£433,800</b>

Source: PwC analysis of online information returns

Table 5.5 provides the breakdown of activities in percentage terms. Non-salary payroll costs overall are mainly made up of pharmacist and owner/governance activities, 41.9% and 27.0% respectively.

- For Independent Contractors and Small Chains the pharmacist role makes up the biggest percentage at 43.5% and 40.1% respectively.
- For Multiples the owner/governance role is the biggest at 50.8%, but the pharmacist role only accounts for 16.2% of owner costs.
- Additionally costs for other roles are large for Independent Contractors and Small Chains, 23.3% and 36.6% respectively, while Multiples reported no other roles.

**Table 5.5: Total non-payroll salary by category In Northern Ireland (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Owner / governance	27.0%	27.7%	11.5%	50.8%
Pharmacist	41.9%	43.5%	40.1%	16.2%
Manager	5.5%	3.9%	11.1%	23.7%
Business planning	1.9%	1.7%	0.7%	9.3%
Other	23.7%	23.3%	36.6%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

<sup>33</sup> Some owners did not provide a breakdown of their time by activity. Instead they put all their time allocation to the other category and noted that this covers their owner activity across all of the roles. In addition, some owners reported their owner / governance activity in the other category.

## Total Owner cost and allocation to HSC

The values for owner remuneration and non-payroll salary are provided in Table 5.6 below. In total, owners from the Independent Contractor category account for the majority of owner costs. Out of a total owner remuneration value of £9,032,399, £7,671,223 or 85% is accounted for by Independent Contractors. The owner information returns indicate that 52% of the estimated owner costs are non-payroll costs.

**Table 5.6: Total owner costs for Northern Ireland (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Remuneration in accounts (excluding dividends and rental payments to owner)	£9,032,399	£7,671,223	£392,550	£968,626
Non-payroll cost	£9,744,761	£8,274,465	£1,036,496	£433,800

Source: PwC analysis of online information returns

In terms of allocating costs to HSC, for both remuneration and non-payroll salary the majority of costs are accounted for as HSC activities, overall 87.8% and 91.5% respectively are allocated to HSC based on the FAC approach.

**Table 5.7: HSC share of owners costs (%)**

	Overall	Independent Contractors	Small Chains	Multiples
Remuneration (excluding dividends and rental payments to owner)	87.8%	87.1%	92.7%	91.6%
Non-payroll cost	91.5%	92.3%	94.8%	67.4%

Source: PwC analysis of online information returns

The figures may not add up to 100% due to rounding

**Table 5.8: HSC and non-HSC value of owners costs (£)**

	Overall	Independent Contractors	Small Chains	Multiples
HSC Remuneration (excluding dividends and rental payments to owner)	£7,932,790	£6,681,635	£363,893	£887,262
HSC Non-payroll cost	£8,913,424	£7,638,800	£982,429	£292,195
Non-HSC Remuneration (excluding dividends and rental payments to owner)	£1,099,609	£989,588	£28,656	£81,365
Non-HSC Non-payroll cost	£831,337	£635,664	£54,067	£141,605

As discussed above, dividends and rent payments to owners are not included when accounting for total remuneration. Only the remuneration (excluding dividends and rent payments to owners) value is allocated to each branch and incorporated into the total branch costs.

## Owner costs allocated to each branch

Owner costs are allocated to each branch based upon the answers provided by contractors in the information returns. Contractors were asked how they split their time between the branches in their group. Owner costs were allocated as per this answer. For example if an owner has 4 branches and splits their time evenly then 25% of owner costs would be allocated to each branch. If no answer was provided in the information return then owner costs were allocated based on each branch's share of the group's total revenue, for example a branch accounts for 30% of a group's revenue, therefore it is assigned 30% of the owner costs.

Table 5.9 outlines the owner costs on average for each branch and how much of that cost is allocated to HSC and non-HSC. The average owner remuneration (excluding dividends and rental payments to owners) for each branch is £16,883, of which £14,840 is allocated to HSC.

For remuneration the figures at a per branch level are highest for Independent Contractors, followed by Small Chains and then Multiples. The figures for Independent Contractors are significantly higher than for the other categories.

**Table 5.9: Average remuneration allocated to each branch (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Total Remuneration (excluding dividends and rental payments to owner)</b>	<b>£16,883</b>	<b>£33,066</b>	<b>£6,039</b>	<b>£4,070</b>
HSC Remuneration (excluding dividends and rental payments to owner)	£14,840	£28,800	£5,598	£3,728
Non-HSC Remuneration (excluding dividends and rental payments to owner)	£2,043	£4,265	£441	£342

Source: PwC analysis of online information returns

## Summary

This chapter examined the owner costs for each pharmacy. Owner costs are divided into two categories, owner remuneration and non-payroll costs. The total remuneration for pharmacy owners was estimated to be £9,032,399. This excludes dividends and rent payments to owners in order to avoid any double counting. The owner costs not on the payroll were estimated to be £9,744,761.

In terms of allocating owners' costs between HSC and non-HSC, 87.8% of owner remuneration was allocated to HSC and 91.5% of non-payroll costs were allocated to HSC totalling £7,932,790 and £8,913,424 respectively. Non-HSC owner remuneration was £1,099,609 and non-HSC non-payroll costs were £831,337. The average owner cost per branch was £16,883, of which £14,840 was allocated to HSC costs.

Chapter 10 summarises the total owner costs of pharmacies along with branch costs, head office costs and the fair rate of return for each pharmacy type.

# 6 Head office costs

## Introduction

This chapter reports the analysis of the information provided in the head office information returns. It provides the total head office costs and the allocation of costs into HSC. It also provides the average head office cost that is assigned to each branch. The chapter is divided into 4 sub-sections, which are listed below:

- Total head office costs
- Allocation to HSC and on-HSC
- Head office costs assigned to branches
- Summary

## Total head office costs

Contractors completed a head office information return that captured the costs of head office functions not included in the owner or branch information returns. The costs for these functions were also further broken down into personnel costs and non-personnel costs.

Table 6.1 shows the breakdown of head office costs by category. Professional services and distribution functions make up the largest proportion of head office costs, 20.4% and 18.3% respectively, with ICT coming in third with 16.7%.

**Table 6.1: Breakdown of head office costs by category (%)**

	Total
Professional services	20.4%
Distribution	18.3%
ICT	16.7%
Property costs	13.5%
All Other costs <sup>34</sup>	9.2%
Advertising and marketing	9.0%
Finance	7.4%
HR	4.2%
Payroll	0.8%
Property Insurance	0.3%
Other property costs	0.1%
Public liability	0.1%
Professional Indemnity	0.0%
<b>Total</b>	<b>100.00%</b>

*Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding.*

<sup>34</sup> These costs relate to senior management input and facilities and estate management. Product offering and customer relationship management costs are also included but are fully allocated to non-HSC.

Total head office costs in Northern Ireland are £20,734,267, of which 38% or £7,894,906 are personnel, and 62% or £12,839,360 are non-personnel costs.

**Table 6.2: Total head office costs in Northern Ireland (£)**

	Total	Of which personnel costs	Of which non-personnel costs
Professional services	£4,231,947	£1,627,791	£2,604,156
Distribution	£3,802,990	£2,096,474	£1,706,516
ICT	£3,465,136	£420,313	£3,044,823
Property costs	£2,789,789		£2,789,789
All Other costs	£1,901,250	£1,901,250	
Advertising and marketing	£1,858,033	£79,729	£1,778,304
Finance	£1,542,271	£1,151,807	£390,464
HR	£864,660	£524,365	£340,295
Payroll	£163,030	£93,177	£69,853
Property Insurance	£71,582		£71,582
Other property costs	£24,632		£24,632
Public liability	£11,514		£11,514
Professional Indemnity	£7,432		£7,432
<b>Total</b>	<b>£20,734,267</b>	<b>£7,894,906</b>	<b>£12,839,360</b>

Source: PwC analysis of online information returns

## **Allocation to HSC**

This sub section reports the allocation of head office costs to HSC, non-HSC or common.

Head office costs were allocated based on the share of staff time spent between HSC, non HSC and common activities. As shown in Table 6.3, overall 35.5% of head office costs were allocated to HSC. Of particular note are that Professional indemnity costs are almost entirely allocated to HSC (99%).

**Table 6.3: Total HSC head office costs in Northern Ireland**

	Percentage of total cost that is HSC	(£)	Percentage of total cost that is non-HSC	(£)
Professional services	63.0%	£2,665,524	37.0%	£1,566,423
Distribution	19.6%	£744,706	80.4%	£3,058,285
Property costs	41.3%	£1,153,273	58.7%	£1,636,516
ICT	29.3%	£1,015,899	70.7%	£2,449,237
Finance	52.8%	£814,385	47.2%	£727,886
Advertising and marketing <sup>35</sup>	0%	£ -	100%	£1,858,033
HR	42.2%	£365,154	57.8%	£499,506
All other costs	23.1%	£438,393	76.9%	£1,462,857
Payroll	61.6%	£100,389	38.4%	£62,641
Property Insurance	43.5%	£31,133	56.5%	£40,449
Other property costs	41.4%	£10,197	58.6%	£14,435
Professional Indemnity	99.0%	£7,361	1.0%	£71
Public liability	50.2%	£5,781	49.8%	£5,733
<b>Total</b>	<b>35.5%</b>	<b>£7,352,195</b>	<b>64.5%</b>	<b>£13,382,072</b>

Source: PwC analysis of online information returns

### Head office costs assigned to branches

This sub section provides the allocation of head office costs to individual branches.

The total head office costs for each pharmacy group are allocated to individual branches. Head office costs were allocated based on each branch's share of the group's total revenue, for example if a branch accounts for 10% of a group's revenue, then it is assigned 10% of the head office costs.

Table 6.4 shows the average breakdown of head office costs to each branch for each pharmacy category in terms of total head office costs per branch and HSC head office costs for each branch. The figures for Independent Contractors are £0 as no Independent Contractors reported head office costs. Small Chains on average had costs of £2,740, of which 83% or £2,274 were allocated as HSC costs. Multiples have the highest head office costs, on average £86,371 per branch of which 35% or £30,270 was allocated to HSC.

**Table 6.4: Average head office costs per branch (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Total</b>	<b>£38,756</b>	<b>£0</b>	<b>£2,740</b>	<b>£86,371</b>
HSC	£13,742	£0	£2,274	£30,270
Non-HSC	£25,013	£0	£466	£56,100

Source: PwC analysis of online information returns

<sup>35</sup> DoH instructed PwC that advertising and marketing costs should be allocated to non-HSC, rather than common as originally agreed in the Final COSI methodology paper. DoH has noted that advertising and marketing are not HSC commissioned services.

## **Summary**

The total head office cost for community pharmacy services in Northern Ireland was £20,734,267, 99% of head office costs came from the Multiples with the other 1% coming from Small Chains. 69% of head offices were from four activities, namely professional services, distribution, ICT and property costs.

Costs were allocated into HSC, non HSC and common costs using the FAC approach with staff time the driver. On average 35.5% of head office costs were allocated to HSC, which totalled £7,352,195.

The average head office cost per branch for Small Chains was £2,740, of which 83% or £2,274 was allocated to HSC. The average head office cost per branches for Multiples was £86,371, of which 35% or £30,270 was allocated to HSC.

Chapter 10 summarises the total head office costs of pharmacies along with branch costs, owner costs and the fair rate of return for each pharmacy type.

# 7 Depreciation

## Introduction

This chapter examines depreciation and is divided into the following sections:

- Approach taken to calculate depreciation
- Total depreciation and average depreciation per branch
- Allocation of depreciation costs into HSC, non HSC and common
- Total HSC depreciation by category and branch type

## Approach taken to calculate depreciation

The depreciation values that have been calculated are the economic depreciation costs for each pharmacy. To calculate the economic depreciation, contractors were asked in the information returns to provide purchase values and book values for different types of assets, the dates of purchase for those assets and the estimated accounting periods for each type of asset.

## Total depreciation and average depreciation per branch

Table 7.1 outlines the total economic depreciation costs for 2011/12 for each category of assets. The highest proportion of total economic depreciation is “all other assets” depreciation amounting to £3,931,210, followed by retail shelving at £1,711,158. The information returns and additional information provided by contractors were fully used to provide as much detail as possible for this category. In addition follow up calls were undertaken with a range of contractor to collect more granular information. However, the contractors were unable to provide more details on the other assets to enable this category to be broken down in other categories. The associated depreciation costs are treated as common costs and allocated into HSC, non HSC using the EPMU approach<sup>36</sup>. The highest depreciation cost is incurred by Independent Contractors at £3,917,258 followed by Multiples at £3,503,141, and lastly £1,238,535 for Small Chains.

**Table 7.1: Total economic depreciation for Northern Ireland (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Dispensary	£1,329,723	£797,301	£115,313	£417,109
Consultation room	£125,364	£93,809	£5,930	£25,625
Counter area	£284,281	£180,987	£26,568	£76,726
Retail shelving	£1,711,158	£290,952	£144,051	£1,276,155
Total IT equipment	£691,450	£297,433	£78,210	£315,807
Motor vehicles	£585,747	£473,756	£33,965	£78,027
All other assets	£3,931,210	£1,783,019	£834,498	£1,313,692
<b>Total</b>	<b>£8,658,933</b>	<b>£3,917,258</b>	<b>£1,238,535</b>	<b>£3,503,141</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

<sup>36</sup> DoH has noted that additional analysis may be required to provide further details on this cost.

Table 7.2 provides the depreciation costs per branch. Small Chains have the highest average depreciation at £19,054, with Independent Contractors second at £16,885 and Multiples last at £14,719.

**Table 7.2: Average economic depreciation per branch (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Dispensary	£2,485	£3,437	£1,774	£1,753
Consultation room	£234	£404	£91	£108
Counter area	£531	£780	£409	£322
Retail shelving	£3,198	£1,254	£2,216	£5,362
Total IT equipment	£1,292	£1,282	£1,203	£1,327
Motor vehicles	£1,095	£2,042	£523	£328
All other assets	£7,348	£7,685	£12,838	£5,520
<b>Total</b>	<b>£16,185</b>	<b>£16,885</b>	<b>£19,054</b>	<b>£14,719</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

Table 7.3 provides the share of economic depreciation by category. The depreciation of all other assets is the highest depreciation cost category for all pharmacy types. For Independent Contractors and Small Chains, it accounts for 45.5% and 67.4% respectively, it is lower for Multiples at 37.5 and accounts for 45.4% across all pharmacy types.

Overall retail shelving accounts for the second highest portion of depreciation costs (19.8%) yet this is due to the high value of costs incurred by Multiples (36.4% of the total for Multiples) whereas for Independent Contractors and Small Chains, retail shelving only accounts for 7.4% and 11.6% of the total respectively. Across all branch types, Dispensary and IT equipment also make up a large part of depreciation on average, 15.4% and 8% respectively.

**Table 7.3: Percentage of total economic depreciation by category (£)**

	Overall	Independent Contractors	Small Chains	Multiples
Dispensary	15.4%	20.4%	9.3%	11.9%
Consultation room	1.4%	2.4%	0.5%	0.7%
Counter area	3.3%	4.6%	2.1%	2.2%
Retail shelving	19.8%	7.4%	11.6%	36.4%
Total IT equipment	8.0%	7.6%	6.3%	9.0%
Motor vehicles	6.8%	12.1%	2.7%	2.2%
All other assets	45.4%	45.5%	67.4%	37.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

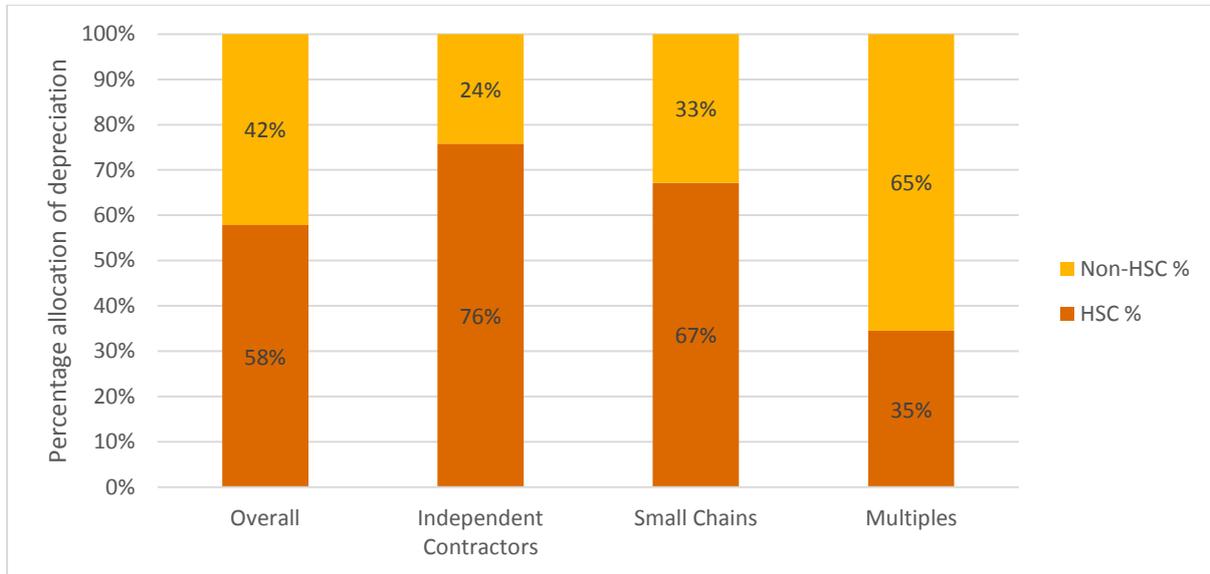
Source: PwC analysis of online information returns

The figures may not add up to 100% due to rounding

## Allocation of depreciation costs into HSC, non HSC and common

The allocation of depreciation costs for each asset category between HSC and non-HSC was agreed by the EG. As shown in Figure 7.1, the HSC allocation of depreciation costs for Multiples is lower at 35% compared to 76% and 67% for Independent Contractors and Small Chains respectively. On average 58% of depreciation costs are allocated to HSC.

**Figure 7.1: Allocation of depreciation costs between HSC and non-HSC (%)**



Source: PwC analysis of online information returns

**Table 7.4: Total HSC and non-HSC economic depreciation by category (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>HSC depreciation</b>				
Dispensary	£1,329,723	£797,301	£115,313	£417,109
Consultation room	£125,364	£93,809	£5,930	£25,625
Counter area	£189,937	£137,550	£19,395	£32,992
Retail shelving	£0	£0	£-	£-
Total IT equipment	£418,939	£226,049	£57,094	£135,797
Motor vehicles	£418,400	£360,055	£24,794	£33,551
All other assets	£2,529,166	£1,355,095	£609,183	£564,888
<b>Total HSC depreciation cost</b>	<b>£5,011,529</b>	<b>£2,969,858</b>	<b>£831,708</b>	<b>£1,209,963</b>
<b>Non-HSC depreciation</b>				
Dispensary	£0	£0	£0	£0
Consultation room	£0	£0	£0	£0
Counter area	£94,344	£43,437	£7,173	£43,734
Retail shelving	£1,711,158	£290,952	£144,051	£1,276,155
Total IT equipment	£272,511	£71,384	£21,117	£180,010
Motor vehicles	£167,347	£113,701	£9,171	£44,475
All other assets	£1,402,044	£427,925	£225,314	£748,805
<b>Total non- HSC depreciation cost</b>	<b>£3,647,404</b>	<b>£947,399</b>	<b>£406,826</b>	<b>£2,293,179</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

Average economic depreciation costs per branch are £16,185 of which £9,367 or 58% is allocated to HSC services. Table 7.5 provides a further breakdown by pharmacy types and asset type.

**Table 7.5: Average HSC economic depreciation per branch by category (£)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>HSC depreciation</b>				
Dispensary	£2,485	£3,437	£1,774	£1,753
Consultation room	£234	£404	£91	£108
Counter area	£355	£593	£298	£139
Retail shelving	£0	£0	£0	£0
Total IT equipment	£783	£974	£878	£571
Motor vehicles	£782	£1,552	£381	£141
All other assets	£4,727	£5,841	£9,372	£2,373
<b>Average per branch HSC depreciation cost</b>	<b>£9,367</b>	<b>£12,801</b>	<b>£12,796</b>	<b>£5,084</b>
<b>Non-HSC depreciation</b>				
Dispensary	£0	£0	£0	£0
Consultation room	£0	£0	£0	£0
Counter area	£176	£187	£110	£184
Retail shelving	£3,198	£1,254	£2,216	£5,362
Total IT equipment	£509	£308	£325	£756
Motor vehicles	£313	£490	£141	£187
All other assets	£2,621	£1,845	£3,466	£3,146
<b>Average per branch non-HSC depreciation cost</b>	<b>£6,818</b>	<b>£4,084</b>	<b>£6,259</b>	<b>£9,635</b>

Source: PwC analysis of online information returns

Note: The figures may not add up to the total due to rounding

## Summary

Total economic depreciation for branches was estimated to be £8,658,933. The highest proportion of total economic depreciation was in “all other assets” depreciation amounting to £3,931,210, followed by retail shelving at £1,711,158.

On average 58% of branch depreciation costs were allocated to HSC. The total allocated to HSC was £5,011,529. 35% of depreciation costs for branches belonging to the Multiples were allocated to HSC compared to 76% and 67% for branches belonging to Independent Contractors and Small Chains.

# 8 Fair rate of return

## Introduction

The fair return represents the minimum return that a company needs to earn on invested capital in order to provide sufficient returns to incentivise and reward the investors who finance the business. We have considered two approaches to calculating the fair return for the HSC component of pharmacy services in Northern Ireland. These are:

- A return on capital approach (Method 1)
- A margins benchmarking approach (Method 2)

For both approaches, we consider an appropriate level of fair return for three categories of community pharmacy: Individual contractors, Small chains and Multiples. We also present an “overall” figure, which, unless stated otherwise, is the branch-weighted average of the three pharmacy categories.

In this section, we discuss the methodology and results relating to each of these approaches. Note that in this CoSI we only report on the fair return for the HSC component of pharmacy services in Northern Ireland.

## Return on capital approach (Method 1)

Our first approach to assessing the level of fair return is a return on capital approach. This is described in more detail in appendices H to I. The key components required for this approach are:

- Tangible assets
- Intangible assets
- Weighted average cost of capital

Each of these components are explained in more detail below.

### Tangible assets

We have used data from the information return, together with a number of assumptions, to calculate an average value for the HSC tangible assets for the branches in the sample. This broadly includes working capital, IT assets and stock. HSC tangible asset value is calculated as the sum of HSC dispensing stock, HSC working capital, physical HSC assets (having identified that part of the head office assets which relates to the HSC, we allocate it proportionately across branches) and a portion of physical common assets (including a proportionate amount of the head office common assets).

The remainder of this sub-section is structured as follows:

- HSC dispensing stock
- HSC working capital
- HSC physical assets
- Portion of common assets
- Results

### Dispensing stock

As part of the information return, pharmacy branches provided the value of their “most recent stock valuation”: HSC dispensing stock, over the counter medicines and other stock (including toiletries, baby goods and sundries). The HSC dispensing stock forms part of the total HSC tangible asset value.

**Table 8.1: HSC dispensing stock**

	Overall	Independent contractors	Small chains	Multiples
HSC dispensing stock	£56,863	£61,713	£46,812	£56,051

Source: PwC analysis of information returns

### HSC working capital

We have calculated an estimate of HSC working capital based on a percentage of the dispensing stock for each category of pharmacy. As part of the information returns, we requested an estimate of “current assets” and “current liabilities” for each pharmacy in order to inform an estimate of HSC working capital<sup>37</sup>. However, the data submitted relates to both HSC and non-HSC activities and the current assets will also reflect the value of inventory, i.e. the dispensing stock. Due to this, it is difficult to separate HSC and non-HSC working capital using this data.

As an alternative approach, we used information gained from the England and Wales (E&W) COSI to inform our estimate for the value of HSC working capital in Northern Ireland. Specifically, we have taken the HSC working capital as a proportion of dispensing stock and applied this to the value of dispensing stock of pharmacies in Northern Ireland to estimate the value of HSC working capital.

Based on this approach we estimate the value of working capital as set out in the table below:

**Table 8.2: HSC working capital**

	Overall	Independent contractors	Small chains	Multiples
HSC dispensing stock	£56,863	£61,713	£46,812	£56,051
Working capital as % of HSC dispensing stock (from E&W CoSI)	-	26.7%	26.3%	20.5%
<b>HSC working capital</b>	<b>£13,259</b>	<b>£16,454</b>	<b>£12,302</b>	<b>£11,485</b>

Source: PwC analysis of information returns

### HSC physical assets

#### Branch assets

As part of the pharmacy information return, respondents were asked to provide data relating to the book value, purchase price and date of purchase of physical branch assets. This data was used to estimate the cost of replacing existing branch assets, by inflating the purchase price of assets to 2011/12 prices using the Consumer Price Index (CPI) and the current economic value of these assets. Table 8.3 shows how these asset categories are allocated between HSC, non-HSC and common categories.

<sup>37</sup> Working capital is defined as current assets less current liabilities.

**Table 8.3: Categorisation of assets**

<b>Branch Asset</b>	<b>Categorisation</b>
Dispensary	HSC
Consultation Room	HSC
Counter Area	Common
Retail Shelving	Non-HSC
IT equipment	Common
Motor vehicles	Common
All other assets	Common

The current economic value of an asset is calculated as 50% of the current replacement cost. In other words, it is assumed that, on average, assets are halfway through their economic life. This approach is consistent with the calculation of economic depreciation (see Chapter 2 for more details).

#### *Head office assets*

Information return respondents also provided information on the book value, purchase price and date of purchase of Head office assets. The assumptions regarding the allocation of these assets to HSC, non-HSC and Common are shown in Table 8.4 below.

**Table 8.4: Categorisation of head office assets<sup>38</sup>**

<b>Head office</b>	<b>Categorisation</b>
IT equipment / software – HSC-related equipment	HSC
IT equipment / software – non-HSC-related equipment	Non-HSC
IT equipment / software –other IT equipment	Common
Motor vehicles	Common

We have calculated the value of these head office assets in the same way as described for branch assets, i.e. the current economic value is equal to 50% of its current replacement cost. A portion of the head office asset values are then allocated to each branch using the revenue weights for each branch, i.e. if a branch constitutes 5% of the group’s revenue, then 5% of the head office asset values are allocated to that branch.

The HSC physical assets for each pharmacy type are set out in Table 8.5 below.

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<sup>38</sup> The information return also requested data related to “All other assets” for the head office. However, due to a high number of returns that had incomplete data in this area, we have made the conservative assumption of excluding “all other assets” from the value of head office assets.

**Table 8.5: HSC physical assets**

	Overall	Independent contractors	Small chains	Multiples
HSC physical branch assets	£26,579	£36,074	£21,688	£21,756
HSC physical head office assets	£8,663	-	£9,101	£13,944
<b>HSC physical assets</b>	<b>£35,242</b>	<b>£36,074</b>	<b>£30,789</b>	<b>£35,700</b>

Source: PwC analysis of information returns

### Portion of common assets

Common assets (both branch-specific and head office assets) are allocated to HSC based on the ratio of HSC to non-HSC asset values. This methodology is consistent with our methodology of allocating costs between HSC and non-HSC activities.

### Results

Table 8.6 sets out the bottom-up estimation of the HSC tangible asset value using the elements from the information return described in this part of the report. The overall average value of HSC tangible assets is £214,849 per branch.

**Table 8.6: HSC tangible assets**

	Overall	Independent Contractors	Small Chains	Multiples
<i>Number of branches</i>	<i>411</i>	<i>139</i>	<i>49</i>	<i>223</i>
HSC dispensing stock	£56,863	£61,713	£46,812	£56,051
HSC working capital	£13,259	£16,454	£12,302	£11,485
HSC physical branch assets	£26,579	£36,074	£21,688	£21,756
HSC head office assets	£8,663	£0	£9,101	£13,944
Sum of HSC asset values	<b>£105,364</b>	<b>£114,242</b>	<b>£89,903</b>	<b>£103,236</b>
Proportion of common physical branch assets	£98,117	£105,370	£101,909	£92,786
Proportion of common physical head office assets	£11,368	£0	£9,142	£18,910
Sum of common asset values allocated to HSC	<b>£109,485</b>	<b>£105,370</b>	<b>£111,051</b>	<b>£111,696</b>
<b>Total HSC tangible assets</b>	<b>£214,849</b>	<b>£219,612</b>	<b>£200,954</b>	<b>£214,933</b>

Source: PwC analysis of information returns

Note(s): (1) Small Chains and Multiples' Head Office assets include some prescription stock; (2) "All other assets" excluded from head office asset values due to insufficient data provided in information returns.

## Intangible assets

In addition to earning a fair return on the investment in the tangible assets of a business, an investor will also require a fair return on the intangible assets associated with the business. In order for a pharmacy to operate successfully, it must also invest in and deploy non-physical, i.e. intangible, assets. For example, this includes expertise, methodologies, reputation, relationships with customers, brand etc.). These intangible assets are essential for a business to operate successfully.

The preferred approach to valuing intangible assets has been a topic of debate. Further details of the assumptions and various methods are explained in further detail in Appendix H. For the purpose of this report, we use a “top-down” approach called a Greenfield assessment. We have chosen this approach because it provides the ability to estimate the value of intangible assets based on data for the pharmacy market in Northern Ireland in 2012 (i.e. data from the information returns).

The Greenfield assessment involves building two simple models of two types of pharmacy: a steady state or mature pharmacy and a start-up pharmacy. The difference in the net present value (NPV) of cash flows for each type of pharmacy represents the premium that investors are willing to pay for an established pharmacy compared to a start-up pharmacy. Since the physical (tangible) assets deployed by a pharmacy are present in both types of pharmacy, this premium can be seen as a measure of the pharmacy’s additional asset value associated with building up the non-physical (intangible) assets needed to become an established, successful pharmacy. Based on this description, the value of intangible assets can be expressed as:

$$\text{Intangible asset value for a steady state pharmacy} = \text{NPV of a steady state pharmacy} - \text{NPV of a start-up pharmacy}$$

We have developed a hypothetical NPV profile for a mature and start-up pharmacy. To ensure the relevance of this method, we have used the COSI information return data wherever possible to inform the intangible asset value. The key assumptions of the model and its inputs are summarised below.

- Inputs are based on weighted average data across all pharmacy types
- Cash flows are modelled on a 25 year time horizon
- All revenues and costs are expressed in real terms
- Steady state total HSC revenue is assumed to be equivalent to the weighted average revenue based on the survey data. Specifically, data have been used to derive an average value for HSC revenues minus the cost of HSC goods that pharmacists dispense.
- The steady-state total HSC cost for a pharmacy is assumed to be equivalent to the average HSC cost based on the survey data.
- The revenue profile for a start-up pharmacy is based on the convergence profile used in the Greenfield assessment for the E&W COSI and is set out in Table 8.7 below.

**Table 8.7: Assumed turnover profile for a start-up pharmacy**

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Start-up pharmacy HSC revenue as proportion of steady-state revenues	48%	69%	79%	85%	92%	100%

Source: England and Wales COSI

For the start-up pharmacy, it is assumed that costs converge to the steady-state level of costs over the same period as the revenues:

- To derive an upper bound estimate of costs, we assume that over the start-up period the costs of a start-up pharmacy were the same as a steady-state pharmacy.
- To derive a lower bound, we assume that over the start-up period the costs of a start-up pharmacy would be less than the costs of a steady-state. We have used a similar profile of start-up costs as that used in the E&W COSI to estimate the lower bound costs.

The results for both approaches are set out in Table 8.8. The Greenfield assessment using the upper bound cost assumption indicates that the value of intangible assets are 26.4% of total HSC pharmacy branch revenue. The lower bound cost estimate indicates a value of intangible assets of 15.4% of HSC revenue. In the absence of data on how the costs of start-up pharmacies actually evolve, we suggest that a pragmatic approach is to use a “mid-point” between these two values. The mid-point estimate is calculated by carrying out a third Greenfield assessment in which the start-up costs are an average of the upper bound and lower bound assumptions. This results in a value of intangible assets of 20.9% of HSC revenue. Based on this, we use a value of 21% in our base case calculations.

**Table 8.8: Greenfield model percentages as a percentage of total HSC pharmacy branch revenue**

	Intangible assets as % of HSC revenue
Upper bound cost assumption	26.4%
Lower bound cost assumption	15.4%
<b>Recommended “mid-point” estimate</b>	<b>20.9%</b>

Source: PwC analysis of information returns

Note: The “mid-point” estimate is not a simple average of the results from the upper bound and lower bound cost assumption approaches. This is set out in more detail in Appendix H.

Based on the current assumptions of the Greenfield assessment, the estimated average value of intangible assets per branch is £195,107. We have addressed an alternative method of estimating intangible asset values in detail in Appendix H.

**Table 8.9: Intangible assets value from using Greenfield assumption**

	Overall	Independent Contractors	Small Chains	Multiples
Total HSC Revenues	£935,593	£899,028	£868,239	£973,017
Intangible assets as % of HSC revenue from Greenfield Model	21%	21%	21%	21%
<b>Implied Intangible assets</b>	<b>£195,107</b>	<b>£187,482</b>	<b>£181,061</b>	<b>£202,912</b>

Source: PwC analysis of information returns

### Weighted average cost of capital

For pharmacies to remain viable commercial enterprises, investors in pharmacy businesses need to be able to earn a fair rate of return to reward them for the risks they take in investing in their business. The approach we have taken to estimating this fair return is through the use of the Weighted Average Cost of Capital (WACC), which represents the minimum rate of return required by investors to compensate them for the cost of financing in a competitive market. In order to calculate the WACC, we need to estimate three components:

- Cost of debt: the interest rate debt providers would charge for providing debt to an investment in pharmacies;
- Cost of equity: the rate of return equity investors would expect on an investment in a pharmacy business; and
- Gearing ratio: the relative proportions of debt and equity to finance the investment.

The WACC is calculated by weighting the cost of equity and debt using the proportion of debt and equity funding used to fund the investment or business (the gearing ratio). Following this, the WACC is calculated as:

$$WACC_{post\ tax} = \frac{D}{D + E} k_d (1 - T) + \frac{E}{D + E} k_e$$

where:

- D is the value of debt in the capital structure;
- E is the value of equity in the capital structure;
- $k_d$  is the pre-tax cost of debt;
- $k_e$  is the post-tax cost of equity;
- T is the corporate tax rate

The standard framework for calculating the cost of equity is the Capital Asset Pricing Model (CAPM). This framework assumes that equity investors require their investment to yield at least the return available on risk-free instruments (e.g. UK government bonds). Added to this risk-free rate of return, equity investors expect a premium for the additional risk involved in equity investments. This premium is defined as the equity market risk premium (EMRP) multiplied by the equity beta. The EMRP is the additional average return compared to the risk-free return needed to compensate an investor for investing in the equities. The beta is a measure of the riskiness of a particular equity investment relative to the average equity investment. In particular, it is a measure of the degree of systematic risk for a particular investment. Under the CAPM, the cost of equity is expressed as:

$$k_e = r_f + (\beta_e \times EMRP)$$

where:

- $r_f$  is the risk-free rate;
- $\beta_e$  is the equity beta;
- EMRP is the equity risk premium

The CAPM framework only compensates investors for systematic risks rather than specific risks. It assumes that equity investors hold diversified investment portfolios, and as a result are only exposed to, and only require a return to compensate them for, systematic risk. We recognise that investors in smaller pharmacy businesses are not typically fully diversified with respect to their investments in these businesses, and are therefore exposed to specific as well as systematic risk. However, we suggest that this is a matter of personal choice and that investors who choose not to diversify may perceive that there are non-financial benefits related to owning and running their own business (e.g. autonomy and flexibility) which offset their exposure to additional (specific) risk. In addition, the specific risks encountered by pharmacies will be partially reflected in the wide range of operating costs incurred by pharmacies in the 12-month period captured in the survey responses.

The WACC is most suited for estimating the fair return for large companies, since its application usually involves using stock market information. Due to this, the use of the WACC is arguably not as well suited for application to smaller companies, in this case the Independent Contractors and Small Chains. However, there is no robust model commonly used to estimate the fair return for such small businesses. Hence, a pragmatic approach in this case is to use the WACC approach with an appropriate adjustment for a Small Company Premium (SCP). In this case, the SCP would be added to the cost of equity ( $k_e$ ) set out above.

Although we acknowledge that the WACC and CAPM frameworks may not be ideal for small pharmacy businesses, we note that the application of a SCP for these small pharmacy types does assume that they require a higher return. Such premia have been considered and applied by UK regulators in

setting prices<sup>39</sup>. The margins benchmarking approach to estimating a fair return provides an alternative estimate, which can be compared to the WACC-based return on capital approach.

The remainder of this section examines the specific components of the cost of capital and is structured as follows:

- Risk-free rate
- Equity market risk premium (EMRP)
- Comparator companies
- Equity beta
- Debt/Equity (D/E) Ratio
- Small Company Premium (SCP)
- Debt Margin
- Corporate tax rate
- Results on WACC

The inputs to the WACC are estimated with reference to September 2011 as this is the mid-point of the assessment period. Further discussion of the WACC methodology and assumptions is set out in Appendix I.

### **Risk-free rate**

Under the CAPM approach, the risk-free rate should be the return on an asset that has returns that are uncorrelated with movements in the market portfolio. In practice, such an asset does not exist and thus the true risk-free rate is not observable. In practice, the redemption yields on “safe”, liquid, financial instruments, which are considered to have negligible default risk, are generally used as approximations of the risk-free rate. In the UK it is generally accepted that the yield on UK government bonds (gilts) can be used as a proxy for the risk-free rate.

Our analysis suggests that long-term UK Government bond spot rates were less distorted by the volatile market conditions prevailing during 2011 / 2012 compared to shorter-term bonds. The yield on the 20-year spot rate for UK nominal government bonds was 3.7% as at September 2011.

Ordinarily, we would obtain a real risk-free rate by looking at the expected yields on index-linked Government bonds. However, in this instance we recommend calculating a real risk-free rate by converting the nominal risk-free rate using an inflation assumption and the Fisher relationship. The Fisher relationship is defined as:

$$r_{f,nom} = (1 + r_{f,real})(1 + i) - 1$$

where:

- $r_{f,nom}$  is the nominal risk-free rate;
- $r_{f,real}$  is the real risk-free rate;
- $i$  is the rate of inflation

To convert the nominal risk-free rate into a real risk-free rate, we use an inflation assumption of 2.6%. This is a forward-looking long-term view of inflation which is appropriate since we are using it to convert a nominal risk-free rate based on expected future yields for 20 year UK bonds.

The implied real risk-free rate as at September 2011 is 1.1% (converting the nominal risk-free rate of 3.7% using the inflation assumption of 2.6% and the Fisher Relationship).

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<sup>39</sup> See, for example, Ofwat, *Future water and sewerage charges 2010-15: final determinations*, section 5.5.

## Equity market risk premium (EMRP)

The EMRP is the additional expected return that an investor demands for the additional risk faced when investing in equities, compared to a risk-free investment. In the context of the fair return analysis on pharmacy assets, it is most appropriate to use a long-term, forward-looking estimate of the EMRP. Based on this, we use an EMRP estimate of 5.5% for the purposes of our WACC calculations.

## Comparator companies

When calculating the cost of equity, using a CAPM approach, for companies that are not publicly listed, a group of listed businesses comparable to the business being analysed must be identified. In this case, we have chosen companies that reflect the business risks similar to the pharmacy business. It is important to have similar comparators so that the factors driving beta and gearing are comparable to the pharmacy business.

For the purpose of our analysis, no such comparator business existed in the UK. Therefore, we have identified a list of comparable firms with an industrial classification that includes drug retailers and pharmacies. It was not possible to find companies with only pharmacy business coverage.

The table below presents the equity beta, debt/equity (D/E) ratio and asset beta for each comparator. The equity betas (estimated by regressing historic returns of the equity against the returns of the overall market) are based on 5-years of monthly data for the period October 2006 to September 2011. The D/E ratios are the 5-year average debt-equity ratios of the five selected comparator companies. The asset betas are derived by dividing the equity beta by (1 + D/E).

**Table 8.10 Comparator company debt to equity ratios and betas**

	Equity beta	5-year D/E Ratio	Asset beta
CVS Health Corporation	0.85	17.1%	0.73
Express Scripts Holding	1.02	14.7%	0.89
The Jean Coutu Group	0.69	8.3%	0.64
UnitedHealth Group	1.04	22.7%	0.84
Walgreens Boots Alliance	1.02	6.1%	0.96
<b>Average</b>	<b>0.92</b>	<b>13.8%</b>	<b>0.81</b>
<b>Median</b>	<b>1.02</b>	<b>14.7%</b>	<b>0.84</b>

Source: PwC analysis, Capital IQ

We have also considered the asset betas used in UK regulatory determinations between 2010 and 2013. The asset betas used in these determinations ranged from 0.32 to 0.74 (see Appendix I). We consider the comparator group in Table 8.10 to provide a better estimate of the asset beta for pharmacy services, because the demand risk faced by regulated utilities is lower than pharmacies. Unlike regulated utility providers that operate in monopoly, or quasi-monopoly, environments, pharmacies are subject to greater competition, which increases their exposure to demand risk. Therefore, we would expect the asset beta of pharmacies to lie above the beta of regulated utilities.

## Equity beta

The equity beta can be estimated by regressing historic returns of the equity against the returns of the overall market. The stronger the correlation, and the greater the amplitude of any movement in returns, the higher the systematic risk associated with an investment. The equity beta of a company is affected by:

- Cyclicity of revenues (due to the economy)

- Cyclicalities of costs (the ability of the company to tailor its costs according to market conditions)

The comparator companies selected are involved in services other than pure pharmacy, such as retail. This suggests that the risk of the business would be based on the blended risks of these two segments. We conclude that, compared to a retail business, a pure pharmacy business might be expected to have lower revenue cyclicalities (which would imply a lower asset beta) but higher operational gearing (which would imply a higher asset beta). Based on this qualitative assessment, we conclude that there is no good reason to adjust the asset beta from that observed for the set of retail pharmacy comparator companies.

The average asset beta observed for the set of comparator companies is 0.81.

### **Debt/Equity Ratio**

The debt/equity (D/E) ratio is assumed to be 13.8% for Multiples and Small chains (based on the analysis of comparator companies) and 0% for Independent Contractors (because the debt of these smaller business pharmacies is backed by personal guarantees and thus has equity-like characteristics). A D/E ratio of 13.8% is equivalent to a gearing ratio of 12.1% ( $D/(D+E)$ ).

### **Small Company Premium**

Academic research, see Fama and French (1993)<sup>40</sup>, has indicated that investors in small companies require a “size premium” for the additional risk of investing in a small company. Specifically, Fama and French presented empirical findings based on analysis of US data that showed that investors in smaller companies consistently require excess returns over those specified by the CAPM. Their work has been replicated by a number of other academic studies, which have also found that smaller firms have had higher risk adjusted returns, on average, than larger firms.

Recent academic studies have also found evidence of size premia in UK markets. For example, Dimson, Nagel and Quigley (2003)<sup>41</sup> replicated the Fama and French (1993) three factor model results in the UK market and concluded that small firms have earned premium returns compared to large firms.

Given that Northern Ireland pharmacies are relatively small businesses, we recommend that a Small Company Premium (SCP) be added to the calculation of the cost of equity, so that investors are properly remunerated. To identify a potential range of small company premiums we have referred to Ibbotson (2012), which provides analysis of long-term US equity returns in excess of CAPM data, by size of company (measured in terms of market capitalisation).

To select the appropriate level of size premia to use in calculations, we must determine the range of pharmacy company sizes for the pharmacy types in question. We do not have market capitalisation or book equity data for NI pharmacies. However, we can make an inference about the size of NI pharmacies by considering the value of total assets calculated for the fair return calculation (see Appendix I).

Based on this analysis, applying a SCP to all pharmacies in Northern Ireland would be a reasonable approach. However, we recognise that pharmacy branches belonging to Multiples are only one component of a much larger business, therefore we do not apply a SCP for Multiples.

We include an SCP of 3.0% for small chains and 4.5% for Independent Contractors.

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<sup>40</sup> Fama, E.F. and French, K.R., 1993. Common risk factors in the returns on stocks and bonds. *Journal of financial economics*, 33(1), pp.3-56.

<sup>41</sup> Dimson, E., Nagel, S. and Quigley, G., 2003. Capturing the value premium in the United Kingdom. *Financial Analysts Journal*, 59(6), pp.35-45.

## Debt Margin

We have calculated a figure for the debt margin using a spot estimate of the spread of UK companies with a BBB credit rating. In order to maintain consistency with the long-term risk-free rate, we calculate the debt margin using a UK corporate debt index of 15+ years maturity. This results in a debt margin of 1.8%.

## Corporate tax rate

For the WACC calculation for large multiples, we use the main rate of UK corporation tax of 26% for the period of 2011-12. This tax rate applies to companies with annual profits in excess of £1.5m.

For the small chains and independent contractor's WACC, we use the small profits rate of UK corporation tax of 20%. This level of tax applies to companies with annual profits not exceeding £300k.

## Results on WACC

For each pharmacy type, the calculated real WACC is based on the latest data available as at September 2011 (which serves as the mid-point for March 2011 and March 2012). We use a real WACC (rather than a nominal WACC) to avoid double counting of inflation when multiplying by the nominal asset base.

**Table 8.11 Components of cost of capital**

	Independent Contractors	Small Chains	Multiples
Nominal risk-free rate	3.7%	3.7%	3.7%
Inflation	2.6%	2.6%	2.6%
Real risk-free rate	1.1%	1.1%	1.1%
Debt Margin	1.8%	1.8%	1.8%
Tax rate	20.0%	20.0%	26.0%
<b>Cost of debt (pre-tax)</b>	<b>5.5%</b>	<b>5.5%</b>	<b>5.5%</b>
<b>Cost of debt (post-tax)</b>	<b>4.4%</b>	<b>4.4%</b>	<b>4.1%</b>
Asset-beta	0.81	0.81	0.81
Target gearing	0.0%	12.1%	12.1%
Equity-beta	0.81	0.91	0.91
Equity Risk Premium	5.5%	5.5%	5.5%
Small company premium	4.5%	3.0%	0.0%
<b>Cost of equity (post-tax)</b>	<b>12.6%</b>	<b>11.7%</b>	<b>8.7%</b>
<b>Cost of equity (pre-tax)</b>	<b>15.8%</b>	<b>14.6%</b>	<b>11.8%</b>
<b>Nominal pre-tax WACC</b>	<b>15.8%</b>	<b>13.5%</b>	<b>11.0%</b>
<b>Real pre-tax WACC</b>	<b>12.5%</b>	<b>10.3%</b>	<b>7.6%</b>

Source: PwC analysis, Capital IQ, Datastream

The results indicate that the real pre-tax WACC is the highest for Independent Contractors at 12.5% (owing to their small company size) and the lowest for multiples at 7.6%.

### *Fair Return – Return on capital approach*

We have calculated a fair rate of return using a standard weighted average cost of capital (WACC) methodology. The WACC gives the minimum rate of return an investor would expect to achieve in a competitive market and uses economic theory to estimate the cost of debt and the cost of equity for pharmacy businesses. The cost of equity has been calculated using a standard Capital Asset Pricing Model (CAPM).

The Fair Rate of Return is calculated as:

$$WACC \times (Tangible\ Assets + Intangible\ Assets)$$

- A real WACC is used to avoid double counting of inflation when multiplying by the nominal asset base.
- Pre-tax fair return is initially calculated by multiplying the nominal asset base by the real WACC.
- Overall, the calculated average pre-tax fair return per branch for the year April 2011 to March 2012 is £38,581.

**Table 8.12 Calculated Fair Return on HSC investment**

	Overall	Independent Contractors	Small Chains	Multiples
Total HSC Revenues	<b>£935,593</b>	£899,028	£868,239	£973,017
% from Greenfield Model	21%	21%	21%	21%
Implied HSC intangible assets	£195,107	£187,482	£181,061	£202,912
HSC tangible assets	£214,849	£219,612	£200,954	£214,933
HSC total assets	£409,956	£407,094	£382,015	£417,844
Real WACC (pre-tax)	<b>9.6%</b>	12.5%	10.3%	7.6%
<b>Fair return</b>	<b>£39,145</b>	<b>£50,957</b>	<b>£39,477</b>	<b>£31,743</b>
<i>Fair return (tangible)</i>	£20,515	£27,489	£20,766	£16,328
<i>Fair return (intangible)</i>	£18,630	£23,468	£18,711	£15,415

Source: PwC analysis of information returns

### *Margins benchmarking (Method 2)*

An alternative approach to estimating the return on capital approach to calculate a fair return for HSC pharmacy services, is the margins benchmarking approach. In this section, we describe this approach, how it was applied to the Northern Ireland pharmacy information returns data and the resulting fair return estimates.

#### *Benchmarking exercise*

For the benchmarking methods described in chapter 3, financial information of certain companies were required to calculate the benchmark EBITDA. The groups of companies were selected to match, on average, the parameters of each of the groups represented in the CoSI NI analysis, i.e. Individual Contractors, Small Chains and Multiples.

Companies were filtered based on the following criteria (the company information was sourced from UK Company Analysis (Companies House filings)):

1. Presently Active
2. UK based (the search for Multiples was extended to companies overseas as well due to the limited sample size with high turnover)
3. Turnover<sup>42</sup>:
  - a. 100,000 – 6M for Individual Contractors,
  - b. 100,000 – 10M for Small Chains,
  - c. 8 – 150M for Multiples.
4. Sector: Retail
5. Industry: Retail Sale of Pharmaceutical and Medical Goods, Cosmetic and Toilet Articles (however, for the purpose of this analysis only pharmacies and chemists were chosen)

An example financial report from the Companies House filings is shown in Table 8.13 below. Data for the 2012 (year of CoSI data) was not always available nor was data for the most recent financial year always available. In order to maximise the use of available data, we have taken the average of data from the financial years 2012 to 2015.

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<sup>42</sup> For each pharmacy group we looked at the total revenue for each group that was reported in their information returns and calculated the average revenue for each category as well as looking at the range of revenues for each category. We then chose companies with revenues close to this average as well as some companies with revenues from each end of the range to best resemble the values provided in the information returns. The pharmacy types were determined by the number of branches. The high end of revenues in each group tend to be considerably larger than the lower end of the next category, which results in some overlap between categories.

**Table 8.13: Example financial data table**

Date Of Accounts	31/03/2015	31/03/2014	31/03/2013	31/03/2012
Accounting Standard	UK GAAP	UK GAAP	UK GAAP	UK GAAP
Number Of Weeks	52	52	52	52
Currency	GBP	GBP	GBP	GBP
<b>Turnover/Sales</b>	<b>1,078,737</b>	<b>1,082,679</b>	<b>1,047,036</b>	<b>993,225</b>
Home Nation	0	0	0	0
Export	0	0	0	0
Cost Of Sales	687,291	710,103	667,073	661,738
Exceptional Items	0	0	0	0
Other Direct Items	0	0	0	0
Total Expenses	0	0	0	0
Gross Profit	391,446	372,576	379,963	331,487
Operating Expenses	246,795	249,360	243,328	226,503
Operating Income	0	0	0	0
Exceptional Items	0	0	0	0
<b>Operating Profit</b>	<b>144,651</b>	<b>123,216</b>	<b>136,635</b>	<b>104,984</b>
Other Income	0	0	0	0
Interest Receivable	48	0	0	0
Interest Payable	0	0	575	4,060
To Bank	0	0	0	0
On Hire Purchase	0	0	0	0
On Leasing	0	0	0	0
Other	0	0	0	0
Exceptional Items	0	0	0	0
<b>Pre-Tax Profit/(Loss)</b>	<b>144,699</b>	<b>123,216</b>	<b>136,060</b>	<b>100,924</b>
Taxation	28,860	27,571	29,366	22,874
Extraordinary Items	0	0	0	0
Minority Interests	0	0	0	0
Dividends	101,304	24,924	0	0
<b>Net Profit/(Loss)</b>	<b>14,535</b>	<b>70,721</b>	<b>106,694</b>	<b>78,050</b>
Depreciation Charges	1,142	17,768	17,519	16,627
Amortisation Charges	48,300	48,300	48,300	48,300

Source: Companies House

Based on the data for each benchmark company, we used the following formula to calculate EBITDA:

$$EBITDA = \text{Operating Profit} + \text{Depreciation charges} + \text{Amortisation charges}$$

For example, based on data in the table above, for the year ending 31 March 2015, EBITDA would be equal to: 144,651 + 1,142 + 48,300 = £194,093. Using these EBITDA figures, we have considered two approaches for the margins benchmarking approach. These are:

1. A return on sales approach (EBITDA / Sales)
2. A return on costs approach (EBITDA / Cost)

For the return on sales approach, we calculated an EBITDA/Sales margin for 20 comparators for the Independent Contractors, 19 comparators for the Small Chains category, and 12 comparators for the Multiples category. For each pharmacy category we calculated the average EBITDA/Sales margin. This average margin forms the benchmark EBITDA/Sales margin which is used to estimate a fair return for Northern Ireland pharmacies.

To calculate a fair return for Northern Ireland pharmacies, it is necessary to 'gross-up' the sum of pharmacy costs excluding depreciation. The Benchmark EBITDA/Sales taken from the comparators is then applied to the pharmacy costs as shown in the illustrative example in Table 8.14.

**Table 8.14: Illustrative example of return on sales methodology**

Input	Calculation	Example Value
Benchmark EBITDA/Sales	A	10%
Total cost ex. depreciation	B	£100
<b>Fair return</b>	<b><math>C = B/(1-A)-B</math></b>	<b>£11</b>
Depreciation	D	£20
Total remuneration	$E = B+C+D$	£131

**Application of benchmarking exercise to Northern Ireland pharmacy data**

For each pharmacy category (i.e. Multiples, Small Chains, Independent Contractors), we calculate the average value for “total cost ex. depreciation”. This value is then ‘grossed up’ to estimate the sales and the fair return for Northern Ireland pharmacies. Table 8.15 shows the results of these calculations and sets out the fair return value for a pharmacy branch using the return on sales margins benchmarking method.

**Table 8.15: Summary of findings using return on sales methodology**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Average Benchmark EBITDA/Sales</b>	<b>9.5%</b>	<b>9.9%</b>	<b>9.7%</b>	<b>9.2%</b>
Total HSC cost ex. depreciation	£312,004	£198,552	£187,726	£410,029
<b>Fair return</b>	<b>£32,230</b>	<b>£21,817</b>	<b>£20,095</b>	<b>£41,388</b>
Depreciation	£20,519	£20,879	£29,596	£18,301
Total remuneration	<b>£364,754</b>	£241,248	£237,417	£469,718

Source: PwC analysis, Companies House, Information returns

The return on sales approach indicates that overall the fair return for Northern Ireland pharmacies is £32,230. This is broadly consistent with the overall estimate under the return on capital approach of £38,581, albeit with some variation within the categories of pharmacy.

The second margins benchmarking approach is the return on costs approach. The calculation for return of costs method is similar to return on sales. However, where revenue is used as the denominator in the return on sales approach, the return on costs approach uses the sum of operating costs (excluding depreciation and amortisation) as the denominator. In addition, the application of the benchmark return costs margin does not need to be ‘grossed up’.

The results of the return on costs approach are set out in Table 8.16. This method results in a significantly higher estimate of fair return for all pharmacy types, of £100,125 per pharmacy, when compared to the return on sales approach and the return on capital approach.

**Table 8.16: Summary of findings using return on cost method**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Average Benchmark EBITDA/Cost*</b>	<b>32.8%</b>	<b>35.5%</b>	<b>34.0%</b>	<b>30.9%</b>
Total HSC cost ex. depreciation	£312,004	£198,552	£187,726	£410,029
<b>Fair return</b>	<b>£100,125</b>	<b>£70,585</b>	<b>£63,870</b>	<b>£126,505</b>
Depreciation	£20,519	£20,879	£29,596	£18,301
Total remuneration	£432,649	£290,016	£281,192	£554,835

Source: PwC analysis, Companies House, Information returns

Note: The “cost” used in the benchmark margin is operating costs, i.e. excluding the cost of sales

Of the two margins benchmarking approaches, we consider the return on sales approach to be the more reliable. This is because the return on cost approach assumes that the benchmark companies apply a consistent treatment to the “cost of sales” and “operating costs”. Indeed, the “higher-up” the income statement the benchmark is taken from, the less it will be distorted by the accounting assumptions used by the benchmark companies. Given that sales, or revenue, is the top line item of an income statement, the return on sales approach will suffer from fewer inconsistencies that arise from differences between the benchmark companies.

## Summary

The appropriate fair return for the HSC component of pharmacy services in Northern Ireland was examined. Specifically two main approaches were considered:

1. A return on capital approach
2. A margins benchmarking approach

The return on capital approach is a relatively direct approach to calculating a fair return for providers of capital and uses logical relationships that are applied directly to the capital invested in a company. In addition, this approach is not heavily dependent on the selection of relevant benchmarks. Following this approach, we estimate an overall fair return for Northern Ireland pharmacies of £39,145.

When using the margins benchmarking approach, the return on sales approach provides an overall fair return estimate for Northern Ireland pharmacies of £32,230.

Given the findings above, we consider the appropriate overall fair return for the HSC component of pharmacy services in Northern Ireland, to be between £32,230 and £39,145 and per pharmacy depending on the approach used to calculate.

# 9 Value for money and future proofing

## Introduction

This chapter, based on information provided in the CoSI information returns examines some of the changes in HSC services that community pharmacies in Northern Ireland have provided since 2011/12. It also considers how community pharmacies in Northern Ireland could potentially further improve value for money. This chapter is made up of the following sections:

- Changes in HSC Services since 2011/12
- What future services can community pharmacies provide and how
- Pharmacy efforts to improve value for money
- Summary of value for money and future proofing

## Changes in HSC services since 2011/12

This section examines changes to HSC community pharmacy services since 2011/12. Contractors were asked if there had been any changes to the HSC services that they provide since 2011/12. They were further asked to define what services had changed, how they had changed, if there had been any additional funding granted to them in order to support the change and who provided the funding. The main changes in services noted by contractors were:

- The most commonly identified change in HSC services was the introduction of the **Medicines Use Review (MUR)**. This was identified as a new service or as an increased service by nearly all of the contractors who had seen a change between 2011/12 and 2015. The service was typically identified as having received additional funding from the HSCB, it was however pointed out by several of the respondents that the funding was limited to a set number of MURs and that any extra beyond that number was not funded.

*“The Medicines use review services, MUR, started in May 2013. Since then the uptake of the service had been increasing. The funding is provided for a set number of MURs beyond which funding ceases” – Respondents about MUR*

- **Manage Your Medicines (MYM)** is the next most frequently mentioned service change. It has been identified as a new service or an increased service by the majority of contractors. Contractors did however respond differently as to how this service is funded, some contractors identified that there has been a funding increase put in place by HSCB, other contractors have stated that there has been no increase or even that there has been a decrease in funding.

*“No additional funding has been made available for MYM, still a limit of 20 reviews per year” – Respondent on funding levels of MYM*

- Both **ordinary and multiple dispensing** are frequently mentioned as HSC services that have increased since 2011/12. Contractors did not report an associated increase in funding and some contractors identified a decrease in the funding granted to them for these services. For multiple dispensing, the increased demand for this service from GPs is reported to have led to a large increase in the time contractors spend on delivering this service. One contractor noted that the service had “*had over 300% [increase] in volume*” but “*almost 60% decrease in funding*”.

*“Funding has decreased. Multiple dispensing fee in Aug11 was 49p, in Aug15 it was 40p” – Respondent response to funding of multiple dispensing*

- **Minor Ailments** is reported by a large number of contractors to be a service that has seen an increase in activity. The increase is identified to have two causes: an increase in number of services that fall under the service, and an increase in the number of people using it. HSCB is reported as a source of funding, however there is a mix of responses as to whether or not there has been an increase in the level of funding provided by HSCB for this service.

*“Activity within the minor ailments scheme has increased. The formulary expanded from 6-10 conditions.– Respondents on minor ailments*

Other frequently mentioned services include<sup>43</sup>:

- **Smoking cessation** – a number of contractors reported this as a new service, others stated reduced activity. Funding is provided by HSC.
- **Advice services** – contractors have reported an increase in the provision of this service as well as “some” increase in the funding provided.
- **Procurement of medicines** – contractors highlighted that there has been an increase in the amount of time and resources spent on this service due to issues such as limited availability and quota restrictions. No additional funding has been reported as being made available.
- **Health promotion and weight management** – both of these services were commonly mentioned services that have seen an increase in activity but not in funding.
- **Staff training in HSC services** – Contractors reported an increase in activity but no increase in funding.
- **H. Pylori testing** – this service has been discontinued since 2011/12 and funding has been withdrawn.

## ***What future services can community pharmacies provide and how?***

Contractors were asked what additional HSC services could be provided by community pharmacies beyond 2015 as well as what changes need to occur in order for them to be able to provide additional HSC services. This section examines:

- What new services and changes could be made to improve community pharmacy?
- What requirements are needed to allow change?
- The potential benefits of changes

## ***What new services and changes could be made to improve community pharmacy?***

The most frequently mentioned new services or changes to services by contractors in the information returns were as follows:

- **Expansion of minor ailments services** – This area was identified by most respondents as an area that had great potential for expansion.

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<sup>43</sup> This is not a comprehensive list and other services mentioned by some contractors that have experienced a change are: Vaccinations, Supply of oxygen, BCCP Project, Sexual Health Pilot, TCES Equipment, Opening hours/Sunday rota, Lithium Pilot

*“Most health promotion services could be offered through community pharmacy. Minor Ailments is a huge area that could be explored further with greater input from the pharmacy teams, which in turn reduces the burden on other members of the healthcare teams such as GP’s, out of hours services, and other elements of Urgent and Emergency Care.” - Respondent*

- **Extend MUR services** – Contractors identified this as an area that could easily be expanded and combined with other services, for example the hospital discharge service.

*“Greater Medicine Use Review scope - such as take home medicines on hospital discharge” - Respondent*

- **Hospital discharge services** – This was also identified as an area that contractors could easily add value and efficiency to.

*“Post hospital discharge MUR. This service can be used to provide a seamless care pathway for patients who transfer from hospital to the community setting. It is currently provided in England” - Respondent*

- **Services individually tailored for patients with long term conditions** – Patients with long term conditions have long term relationships with their local pharmacies, allowing for this relationship to be tailored to the patient would increase the benefit to the patient as well as make the service more efficient for the pharmacy.

*“Pharmacy also has a valuable role to play in helping patients manage their Long Term Conditions effectively, again reducing the burden on the wider Health and Social Care system.” - Respondent*

- **Health screening/health advice service** – Contractors highlighted the need for better education of the public through services such as health screening and health advice being available in pharmacies. This could help alleviate some of the pressures on GPs and hospitals. Example services that could be provided include blood pressure monitoring and weight management.

*“Most health promotion services could be offered through community pharmacy” – Respondent*

### *What requirements are needed to allow change?*

The most commonly occurring theme when it comes to discussing what is necessary for the changes to happen, is the need for an **increase in funding**. Contractors report that there is already a strain on the resources available and that without further funding they will not be able to provide further services. An increase in funding is absolutely necessary for the provision of any of the suggestions to increase value for money. Most of the contractors stated that they would like a new contract that would more accurately remunerate them for the HSC services they provide.

*“A well-funded pharmacy contract which enables the core dispensing and additional service to be delivered in a viable and sustainable manner.” – Respondent*

Most of the suggestions for providing additional services would require **more staff and/or training** for existing staff. This of course requires increased funding. Some contractors have estimated that in order to provide additional services, an additional full time pharmacist would be required

*“Training on enhanced services. Training would be an essential part of any new service provision for the pharmacist and support staff e.g. new MUR conditions, Independent Prescribing etc.” – Respondents*

To provide the additional services, contractors suggest that improvements be made in terms of **links with GP's and hospitals**. This would allow for better sharing of insights into patient data. This is identified as being in line with the “*DHSSPS Making it Better*” strategy and would increase the safety and convenience for the patient significantly, for example by allowing a pharmacist to see what other medication the patient is on, or any medical conditions that they may have. This would allow pharmacists to provide a much more effective service to the public.

*“Pharmacy teams would need greater access to patient information and the ability to record data back to the health records for patients treated at the pharmacy. To provide the best support to the wider healthcare system, national advertising would be needed to help drive the cultural change amongst patients, providing additional capacity for GPs and the Urgent & Emergency Care system.” - Respondent*

### *The potential benefits of changes*

Contractors have, in addition to pointing out the above services as specific areas that can be improved, mentioned that the provision of these through pharmacies could decrease the pressure on other areas of the health service such as GPs and hospitals, as well as providing a cheaper option as services such as blood pressure monitoring and flu vaccinations could be provided in pharmacies instead of at GP practices. Contractors also pointed out that there are a number of services that are already being offered in pharmacies (i.e. advisory services) that if promoted to the public reduce the number of people visiting their GP, thus reducing the pressure on GPs and result in money being saved for the health service.

*“...could run flu vaccination service at fraction of cost currently paid to surgeries.” - Respondents*

### *Pharmacy efforts to improve value for money*

This section examines the steps taken by contractors to improve value for money in their pharmacies. Contractors were asked to outline what they have done to improve value for money in their pharmacies between 2011 and 2015. Five key improvement areas for value for money were mentioned:

- **Increasing productivity** – a number of contractors stated that increasing productivity has been essential in improving value for money. This has been necessary to meet the increased demand for HSC services such as the dispensing of prescription drugs since 2011/12. This increase in demand has placed extra strain on resources by requiring more time to be spent on actually dispensing the medication as well as an additional burden in other areas such as the script submissions and procurement of medication. Contractors have made dispensing more efficient by maximising the volume that one employee can dispense. One respondent stated that they have “*increased the volume of dispensing with a minimum increase in staff levels*”, other respondents state that the increased demand has required them to reconsider staffing levels in order to reduce the associated costs.

*“I have had to carry out an in depth review of the role of staff members and the costings associated with running my pharmacy practice so that the pharmacy can provide the same level of service, albeit with less funding. This has involved redeploying staff to different tasks and has also necessitated reducing the costs of payroll.” – Respondent*

- **An increase in the amount of staff training** provided is one of the ways in which productivity within the pharmacies has improved. This also has the additional benefit of increasing the quality of the service the customer receives too.

*“Ongoing staff training at all levels ensures increased uptake of services and more efficient service provision.” - Respondent*

- **Medicine procurement** – Medicine procurement methods were also reported as an area that many contractors have focused on in order to improve value for money. The aim of this has been to decrease the drug bill in each branch. Respondents report that they have done this by seeking out the cheapest products (i.e. generics), or that they have focused on making the procurement process more effective. Contractors with multiple branches have reported that they have increased efficiency by establishing a centralised buying team covering all their branches.

*“Within the pharmacy we check prices of ‘specials’ from various suppliers and where possible use the least expensive option thus ensuring value for money. If there is a less expensive licensed option available in the same therapeutic category we will contact the prescriber to discuss the alternative. A centralised buying team is employed by [pharmacy] to source as many drugs as possible at the most competitive prices. Efforts are also made to ensure that as many lines as possible are held in stock, especially lines which are difficult to source. This means that less time is spent by GPs revisiting prescribing for patients for whom drug availability is an issue” - Respondent*

- **Increased governance and quality measures** – Several contractors report that this has been an important area in increasing value for money since 2011/12.

*“I employ Locums to free my time to provide HSC services, increase governance & updating SOP's & quality measures” - Respondent*

- **Updating facilities** – A lot of contractors report that they have renovated their pharmacy. This extends to both the interior of the shop, such as consultation rooms as well as technical updates such as updating IT systems. Some contractors have also invested in a dispensing robot that makes the dispensing process more effective.

*“New consultation room, equipped with extra computer to facilitate new services- e.g. - MUR's”- Respondent*

## Summary

A range of changes in services since 2011/12 were identified by contractors. The most frequently identified change was the introduction/increase in the **Medicines Use Review (MUR) service**. Other frequently mentioned service changes included; the introduction of **Manage Your Medicines (MYM)**; the increase in ordinary and multiple dispensing demand and the time spent on dealing with this increased demand; and an increase in demand for the Minor Ailments service. Both the MUR and the MYM were identified as being funded to an extent by the HSCB, but no additional funding was reported for the other additional services.

Contractors have reported that they have taken several steps to improve value for money between 2011 and 2015. The most frequently mentioned steps taken by contractors were increasing general productivity, increased efforts to make savings on medicine procurement, increased governance & quality measures and updating facilities.

The most frequently mentioned services identified as being possible for contractors to provide beyond 2015 were: expansion of minor ailments service, an extended MUR service, hospital discharge service, services tailored for patients with long term conditions, additional health screening and health advice services.

Contractors feel that the necessary changes that will be needed to realise these opportunities are; an increase in funding, more staff and training for staff and lastly improved links with GP's and hospitals.

# 10 Overall results

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## ***Introduction***

This chapter presents the total costs of providing community pharmacy services in Northern Ireland in 2011/12. The costs are presented in 4 sub-sections as follows:

- Total costs
- HSC and non-HSC costs of community pharmacy services
- Sensitivity analysis
- Summary

## ***Total costs***

This section provides the total cost of community pharmacy services in Northern Ireland. The information is presented in under two headings:

- The average cost per branch by pharmacy type and cost category
- The total cost by pharmacy type and cost category.

### ***The average cost per branch by pharmacy type and cost category***

Table 10.1 provides the average branch pharmacy costs using the information from the information returns.

**Table 10.1: Average costs per pharmacy branch**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£144,327	£100,852	£117,892	£193,927
Property Costs	£51,365	£32,986	£33,003	£74,295
Other branch costs	£44,812	£34,707	£38,256	£56,452
<b>Total Branch Costs</b>	<b>£240,504</b>	<b>£168,544</b>	<b>£189,151</b>	<b>£324,674</b>
Owner Costs	£16,883	£33,066	£6,039	£4,070
Head office Costs	£38,756	£-	£2,740	£86,371
<b>Total Operating Costs</b>	<b>£296,143</b>	<b>£201,610</b>	<b>£197,930</b>	<b>£415,114</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£20,515	£27,489	£20,766	£16,328
Intangible Fair Return (method 1)	£18,630	£23,468	£18,711	£15,415
Total Fair Return (method 1)	£39,145	£50,957	£39,477	£31,743
Total Fair Return (method 2)	£32,230	£21,817	£20,095	£41,388
Depreciation	£16,185	£16,885	£19,054	£14,719
<b>Total Capital Costs (method 1)</b>	<b>£55,330</b>	<b>£67,842</b>	<b>£58,531</b>	<b>£46,462</b>
<b>Total Capital Costs (method 2)</b>	<b>£48,415</b>	<b>£38,702</b>	<b>£39,149</b>	<b>£56,107</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£351,473</b>	<b>£269,452</b>	<b>£256,462</b>	<b>£461,576</b>
<b>Total Costs (method 2)</b>	<b>£344,558</b>	<b>£240,312</b>	<b>£237,080</b>	<b>£471,221</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

The average total cost per branch was £344,558 or £351,473 depending on the method used to calculate Fair Return costs. Non-recorded payroll costs are calculated to be £20,608 and if included the total becomes either £365,166 or £372,081. The average costs for a branch in the Multiples category were 71% higher than an Independent Contractor and 80% higher than a Small Chain.

### *The total cost by pharmacy type and cost category*

Table 10.2 presents an estimate of the total overall cost for community pharmacy services in 2011/12. The overall total cost was £183.3 million or £189.0 million depending on the Fair Return method used. In each scenario Multiples account for the largest part of the total, followed by Independent Contractors and then Small Chains. Non-recorded payroll costs consist of input from staff or owners that is considered essential to the ongoing operation of the pharmacies, the value of these costs is £11.0 million and with these costs included the total overall cost is £194.3 million or £200.1 million.

**Table 10.2: Total costs for community pharmacies in 2011/12**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£77,215,165	£23,397,554	£7,662,984	£46,154,626
Property Costs	£27,480,009	£7,652,681	£2,145,206	£17,682,122
Other branch costs	£23,974,251	£8,052,001	£2,486,655	£13,435,595
<b>Total Branch Costs</b>	<b>£128,669,426</b>	<b>£39,102,236</b>	<b>£12,294,846</b>	<b>£77,272,344</b>
Owner Costs	£9,032,399	£7,671,223	£392,550	£968,626
Head office Costs	£20,734,267	£-	£178,079	£20,556,188
<b>Total Operating Costs</b>	<b>£158,436,092</b>	<b>£46,773,459</b>	<b>£12,865,474</b>	<b>£98,797,158</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£11,613,302	£6,377,448	£1,349,790	£3,886,064
Intangible Fair Return (method 1)	£10,329,561	£5,444,576	£1,216,215	£3,668,770
Total Fair Return (method 1) <sup>44</sup>	£21,942,863	£11,822,024	£2,566,005	£7,554,834
Total Fair Return (method 2)	£16,218,063	£5,061,544	£1,306,175	£9,850,344
Depreciation	£8,658,933	£3,917,258	£1,238,535	£3,503,141
<b>Total Capital Costs (method 1)</b>	<b>£30,601,796</b>	<b>£15,739,282</b>	<b>£3,804,540</b>	<b>£11,057,975</b>
<b>Total Capital Costs (method 2)</b>	<b>£24,876,996</b>	<b>£8,978,802</b>	<b>£2,544,710</b>	<b>£13,353,485</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£189,037,888</b>	<b>£62,512,741</b>	<b>£16,670,014</b>	<b>£109,855,133</b>
<b>Total Costs (method 2)</b>	<b>£183,313,088</b>	<b>£55,752,261</b>	<b>£15,410,184</b>	<b>£112,150,643</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

<sup>44</sup> The overall total HSC fair return is the sum of each category, rather than a multiplication of the overall average by the total number of branches. This is due to weighted averages being used and the Multiples average including retail driven branches.

## ***HSC and non-HSC costs of community pharmacy services***

This section of the report provides the HSC costs of providing community pharmacy services in Northern Ireland under the headings:

- The average HSC costs per branch
- The total HSC cost in Northern Ireland
- Average and Total non-HSC costs

### ***The average HSC cost per branch***

Table 10.3 reports the average HSC costs per pharmacy branch. The total average HSC cost (excluding non-recorded payroll costs) for a pharmacy branch was £227,144 or £234,059 depending on the Fair Return method used. Non-recorded payroll HSC costs are calculated to be £18,699 per branch overall. Therefore if included, the total per branch HSC cost is £245,843 or £252,758.

Small Chains had the lowest average HSC per branch cost, Independent Contractors were next and Multiples were the largest per branch HSC cost.

**Table 10.3: Average HSC costs per branch**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£113,792	£83,873	£97,065	£147,526
Property Costs	£31,616	£26,316	£26,810	£38,095
Other branch costs	£11,569	£13,131	£9,662	£10,566
<b>Total Branch Costs</b>	<b>£156,977</b>	<b>£123,320</b>	<b>£133,537</b>	<b>£196,187</b>
Owner Costs	£14,828	£28,800	£5,598	£3,728
Head office Costs	£13,742	£ -	£2,274	£30,271
<b>Total Operating Costs</b>	<b>£185,547</b>	<b>£152,120</b>	<b>£141,409</b>	<b>£230,186</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£20,515	£27,489	£20,766	£16,328
Intangible Fair Return (method 1)	£18,630	£23,468	£18,711	£15,415
Total Fair Return (method 1)	£39,145	£50,957	£39,477	£31,743
Total Fair Return (method 2)	£32,230	£21,817	£20,095	£41,388
Depreciation	£9,367	£12,801	£12,796	£5,084
<b>Total Capital Costs (method 1)</b>	<b>£48,512</b>	<b>£63,758</b>	<b>£52,273</b>	<b>£36,827</b>
<b>Total Capital Costs (method 2)</b>	<b>£41,597</b>	<b>£34,618</b>	<b>£32,891</b>	<b>£46,472</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£234,059</b>	<b>£215,878</b>	<b>£193,682</b>	<b>£267,013</b>
<b>Total Costs (method 2)</b>	<b>£227,144</b>	<b>£186,738</b>	<b>£174,300</b>	<b>£276,658</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

### **The total HSC cost In Northern Ireland**

Table 10.4 presents the total estimated HSC costs for community pharmacy in Northern Ireland in 2011/12. The total HSC cost was £120.5 million or £126.2 million depending on the fair return method used. When the total non- payroll staff costs for branches and owners are included (£10 million), this value rises to £130.5 million or £136.2 million. Multiples account for the largest share in either case, followed by Independent Contractors and then Small Chains.

**Table 10.4: Total HSC costs for community pharmacy services in Northern Ireland**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs <sup>45</sup>	£60,878,903	£19,458,504	£6,309,215	£35,111,184
Property Costs	£16,914,474	£6,105,213	£1,742,628	£9,066,633
Other branch costs	£6,189,213	£3,046,452	£628,060	£2,514,700
<b>Total Branch Costs</b>	<b>£83,982,590</b>	<b>£28,610,169</b>	<b>£8,679,903</b>	<b>£46,692,517</b>
Owner Costs	£7,932,790	£6,681,635	£363,893	£887,262
Head office Costs	£7,352,195	£-	£147,805	£7,204,390
<b>Total Operating Costs</b>	<b>£99,267,575</b>	<b>£35,291,804</b>	<b>£9,191,601</b>	<b>£54,784,169</b>
<b>Capital Costs</b>				
<b>Fair Return<sup>46</sup></b>				
Tangible Fair Return (method 1) <sup>47</sup>	£11,613,302	£6,377,448	£1,349,790	£3,886,064
Intangible Fair Return (method 1)	£10,329,561	£5,444,576	£1,216,215	£3,668,770
Total Fair Return (method 1)	£21,942,863	£11,822,024	£2,566,005	£7,554,834
Total Fair Return (method 2)	£16,218,063	£5,061,544	£1,306,175	£9,850,344
Depreciation	£5,011,529	£2,969,858	£831,708	£1,209,963
<b>Total Capital Costs (method 1)</b>	<b>£26,954,392</b>	<b>£14,791,882</b>	<b>£3,397,713</b>	<b>£8,764,797</b>
<b>Total Capital Costs (method 2)</b>	<b>£21,229,592</b>	<b>£8,031,402</b>	<b>£2,137,883</b>	<b>£11,060,307</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£126,221,967</b>	<b>£50,083,686</b>	<b>£12,589,314</b>	<b>£63,548,966</b>
<b>Total Costs (method 2)</b>	<b>£120,497,167</b>	<b>£43,323,206</b>	<b>£11,329,484</b>	<b>£65,844,476</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

<sup>45</sup> In this table we use the HSC Net Total values for staff costs given by Table 4.6 previously. These net values deduct the pre-registration student funding provided by HSCB to contractors from the total HSC staff cost.

<sup>46</sup> The Fair Return analysis has been conducted for HSC investment only therefore the figures for Fair Return reported in Tables 10.1 and 10.2 are the same as in Tables 10.3 and 10.4.

<sup>47</sup> The Total Tangible Fair Return for independent contractors is calculated by multiplying the average Tangible Fair Return for Independent Contractors in Table 8.12 by the number of independent contractors reported in Table 3.1. The totals for the Small Chains and Multiples have been calculated using the same method.

### *Average and Total non-HSC costs*

The average non-HSC cost per branch and the total non-HSC costs are outlined in Table 10.5. The non-HSC cost is £58.5 million overall. £4.35 million of stock obsolescence costs are not allocated to HSC or non-HSC. There is also non-recorded payroll non-HSC costs of £1.0 million and if included in the total it becomes £59.5 million.

**Table 10.5: Non-HSC costs for community pharmacy services in Northern Ireland**

	Overall	Independent Contractors	Small Chains	Multiples
Average per branch non-HSC cost	£109,279	£46,768	£54,837	£185,082.26
Total non-HSC cost	£58,464,231	£10,850,271	£3,564,382	£44,049,577

*Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding*

### *Other HSCB funding*

HSCB provided other funding to pharmacies to help fund certain aspects of services or initiatives (e.g. rural access support). The value of this funding was £8,000,000 in 2011/12. This funding is not deducted from the total HSC costs outlined above.

### *Sensitivity analysis*

Staff costs are the largest component of operating costs for pharmacy branches at 60%. These costs are allocated to HSC and non HSC based on the FAC approach, which relies on an estimate of how each staff member spent their time between different activities (HSC, non HSC and common) in 2011/12.

The estimates of how staff time is split between HSC, non-HSC and common activities are integral to how costs are allocated into HSC or non-HSC costs, therefore two sets of sensitivity analysis have been conducted to examine the impact of different rates of staff time allocation to HSC and non HSC on the total HSC cost.

In the first scenario, the allocation of time to HSC activities for each role in each branch was increased by 10 percentage points. A natural cap was set so that no allocation of time to HSC exceeded 100%. In the second scenario, the allocation of time to HSC activities for each role in each branch was decreased by 10 percentage points. Tables 10.6 through to Table 10.9 provide the results of the analysis on total and average HSC costs.

**Table 10.6: Total HSC costs for community pharmacy services in Northern Ireland (10 percentage point increase in allocation to HSC)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£64,091,163	£20,427,432	£6,537,076	£37,126,655
Property Costs	£17,547,186	£6,401,568	£1,808,465	£9,337,153
Other branch costs	£6,435,107	£3,155,809	£642,712	£2,636,587
<b>Total Branch Costs</b>	<b>£88,073,456</b>	<b>£29,984,809</b>	<b>£8,988,253</b>	<b>£49,100,395</b>
Owner Costs	£7,932,790	£6,681,635	£363,893	£887,262
Head office Costs	£7,352,195	£-	£147,805	£7,204,390
<b>Total Operating Costs</b>	<b>£103,358,441</b>	<b>£36,666,444</b>	<b>£9,499,951</b>	<b>£57,192,047</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£11,613,302	£6,377,448	£1,349,790	£3,886,064
Intangible Fair Return (method 1)	£10,329,561	£5,444,576	£1,216,215	£3,668,770
Total Fair Return (method 1)	£21,942,863	£11,822,024	£2,566,005	£7,554,834
Total Fair Return (method 2)	£16,218,063	£5,061,544	£1,306,175	£9,850,344
Depreciation	£5,085,698	£3,024,562	£851,173	£1,209,963
<b>Total Capital Costs (method 1)</b>	<b>£27,028,561</b>	<b>£14,846,586</b>	<b>£3,417,178</b>	<b>£8,764,797</b>
<b>Total Capital Costs (method 2)</b>	<b>£21,303,761</b>	<b>£8,086,106</b>	<b>£2,157,348</b>	<b>£11,060,307</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£130,387,002</b>	<b>£51,513,030</b>	<b>£12,917,129</b>	<b>£65,956,844</b>
<b>Total Costs (method 2)</b>	<b>£124,662,202</b>	<b>£44,752,550</b>	<b>£11,657,299</b>	<b>£68,252,354</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

The total HSC staff cost is 5% higher under this scenario compared to the main estimate. As a result the overall total HSC cost of community pharmacy services in Northern Ireland is 3% higher compared to the main estimates at £124.7 million or £130.4 million. Under this scenario the average per branch HSC cost increases to £234,929 or £241,844 as shown in Table 10.7.

**Table 10.7: Average HSC costs per branch (10 percentage point increase in allocation to HSC)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£119,797	£88,049	£100,570	£155,994
Property Costs	£32,798	£27,593	£27,823	£39,232
Other branch costs	£12,028	£13,603	£9,888	£11,078
<b>Total Branch Costs</b>	<b>£164,623</b>	<b>£129,245</b>	<b>£138,281</b>	<b>£206,304</b>
Owner Costs	£14,828	£28,800	£5,598	£3,728
Head office Costs	£13,742	£ -	£2,274	£30,271
<b>Total Operating Costs</b>	<b>£193,193</b>	<b>£158,045</b>	<b>£146,153</b>	<b>£240,303</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£20,515	£27,489	£20,766	£16,328
Intangible Fair Return (method 1)	£18,630	£23,468	£18,711	£15,415
Total Fair Return (method 1)	£39,145	£50,957	£39,477	£31,743
Total Fair Return (method 2)	£32,230	£21,817	£20,095	£41,388
Depreciation	£9,506	£13,037	£13,095	£5,084
<b>Total Capital Costs (method 1)</b>	<b>£48,651</b>	<b>£63,994</b>	<b>£52,572</b>	<b>£36,827</b>
<b>Total Capital Costs (method 2)</b>	<b>£41,736</b>	<b>£34,854</b>	<b>£33,190</b>	<b>£46,472</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£241,844</b>	<b>£222,039</b>	<b>£198,725</b>	<b>£277,130</b>
<b>Total Costs (method 2)</b>	<b>£234,929</b>	<b>£192,899</b>	<b>£179,343</b>	<b>£286,775</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

**Table 10.8: Total HSC costs for community pharmacy services in Northern Ireland (10 percentage point decrease in allocation to HSC)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£52,980,701	£17,073,708	£5,527,064	£30,379,929
Property Costs	£15,299,752	£5,450,493	£1,554,461	£8,294,799
Other branch costs	£5,597,093	£2,780,363	£576,247	£2,240,483
<b>Total Branch Costs</b>	<b>£73,877,546</b>	<b>£25,304,564</b>	<b>£7,657,772</b>	<b>£40,915,211</b>
Owner Costs	£7,932,790	£6,681,635	£363,893	£887,262
Head office Costs	£7,352,195	£-	£147,805	£7,204,390
<b>Total Operating Costs</b>	<b>£89,162,531</b>	<b>£31,986,199</b>	<b>£8,169,470</b>	<b>£49,006,863</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£11,613,302	£6,377,448	£1,349,790	£3,886,064
Intangible Fair Return (method 1)	£10,329,561	£5,444,576	£1,216,215	£3,668,770
Total Fair Return (method 1)	£21,942,863	£11,822,024	£2,566,005	£7,554,834
Total Fair Return (method 2)	£16,218,063	£5,061,544	£1,306,175	£9,850,344
Depreciation	£4,772,580	£2,833,099	£783,046	£1,156,435
<b>Total Capital Costs (method 1)</b>	<b>£26,715,443</b>	<b>£14,655,123</b>	<b>£3,349,051</b>	<b>£8,711,269</b>
<b>Total Capital Costs (method 2)</b>	<b>£20,990,643</b>	<b>£7,894,643</b>	<b>£2,089,221</b>	<b>£11,006,779</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£115,877,974</b>	<b>£46,641,322</b>	<b>£11,518,521</b>	<b>£57,718,132</b>
<b>Total Costs (method 2)</b>	<b>£110,153,174</b>	<b>£39,880,842</b>	<b>£10,258,691</b>	<b>£60,013,642</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

The total HSC staff cost is 13% lower under this scenario compared to the main estimate. The change in allocation to HSC resulted in a lower HSC allocation of common staff costs as well, which resulted in a decrease in staff costs that was greater than 10 percentage points as the EPMU value also declined. Overall the total overall HSC cost of community pharmacy services in Northern Ireland is 9% lower under this scenario (using either method of fair return) compared to the main estimates. Under this scenario the total HSC cost is £110.2 million or £115.9 million. The average per branch HSC cost decreases to £207,810 or £214,725, as shown in Table 10.9.

**Table 10.9: Average HSC costs per branch (10 percentage point decrease in allocation to HSC)**

	Overall	Independent Contractors	Small Chains	Multiples
<b>Operating Costs</b>				
<b>Branch Costs</b>				
Staff Costs	£99,029	£73,594	£85,032	£127,647
Property Costs	£28,598	£23,494	£23,915	£34,852
Other branch costs	£10,462	£11,984	£8,865	£9,414
<b>Total Branch Costs</b>	<b>£138,089</b>	<b>£109,071</b>	<b>£117,812</b>	<b>£171,913</b>
Owner Costs	£14,828	£28,800	£5,598	£3,728
Head office Costs	£13,742	£ -	£2,274	£30,271
<b>Total Operating Costs</b>	<b>£166,659</b>	<b>£137,872</b>	<b>£125,684</b>	<b>£205,912</b>
<b>Capital Costs</b>				
<b>Fair Return</b>				
Tangible Fair Return (method 1)	£20,515	£27,489	£20,766	£16,328
Intangible Fair Return (method 1)	£18,630	£23,468	£18,711	£15,415
Total Fair Return (method 1)	£39,145	£50,957	£39,477	£31,743
Total Fair Return (method 2)	£32,230	£21,817	£20,095	£41,388
Depreciation	£8,921	£12,212	£12,047	£4,859
<b>Total Capital Costs (method 1)</b>	<b>£48,066</b>	<b>£63,169</b>	<b>£51,524</b>	<b>£36,602</b>
<b>Total Capital Costs (method 2)</b>	<b>£41,151</b>	<b>£34,029</b>	<b>£32,142</b>	<b>£46,247</b>
<b>Total Costs</b>				
<b>Total Costs (method 1)</b>	<b>£214,725</b>	<b>£201,040</b>	<b>£177,208</b>	<b>£242,514</b>
<b>Total Costs (method 2)</b>	<b>£207,810</b>	<b>£171,900</b>	<b>£157,826</b>	<b>£252,159</b>

Source: PwC analysis of online information returns  
The figures may not add up to 100% due to rounding

## **Summary**

### ***Total costs of community pharmacy services***

The total cost of providing community pharmacy services was estimated to be £183.3 million or £189.0 million in Northern Ireland in 2011/12. This cost consisted of operating costs and capital costs. Operating costs were split into five components, which were staff payroll costs, property costs, other branch costs (these three could be combined to give a total branch cost) as well as head office and owner payroll costs. Capital costs were split into two components, depreciation and fair return. Two methods are used to calculate fair return and the results of both methods are presented in the summary tables.

Total Branch costs (including staff, property and other branch costs) were £128.7 million, Owner costs totalled £9.0 million and Head Office costs were £20.7 million. Two methods were used to calculate the fair rate of return. Using the WACC approach, the HSC fair rate of return cost was £21.9 million and using the return on sales benchmarking approach the HSC cost was £16.2 million. The estimated depreciation cost was £8.7 million. An additional component, the non-recorded payroll staff and owner costs, represents the estimated cost of time inputs that did not appear on the branch payroll or as part of the owners' remuneration. This cost was estimated to be £11.0 million.

Branches belonging to the Multiples accounted for 58% or 61% (depending on the fair return method used) of the overall total cost compared to 33% or 30% for branches belonging to Independent Contractors and 9% for branches belonging to Small Chains.

### ***HSC and non-HSC costs of community pharmacy services***

The total HSC cost of providing community pharmacy services (excluding non-recorded payroll costs) was estimated to be £120.5 million or £126.2 million depending on the fair return method used. The non-HSC cost was estimated at £58.5 million. The stock obsolescence cost of £4.35 million was not allocated to HSC or non-HSC. It should be noted that the treatment of these costs needs to be considered outside of the CoSI.

Non-recorded HSC payroll costs are estimated to be £10.0 million and if included the total overall HSC cost rises to £130.5 million or £136.2 million depending on the fair return method used. The non-HSC cost rises to £59.5 million.

On average 69% of costs were allocated to HSC and 31% to non-HSC when using method 1 for fair return or 68% and 32% respectively when using method 2. Branches belonging to the Multiples accounted for 50% or 55% (depending on the fair return method used) of the HSC cost compared to 40% or 36% for branches belonging to Independent Contractors and 10% or 9% for branches belonging to Small Chains.

### ***Sensitivity Analysis***

Sensitivity analysis was conducted to examine the impact on costs of a different allocation of staff time between HSC and non-HSC. If the allocation of staff time to HSC was increased by 10 percentage points for each role then the overall total HSC cost would increase by 3% to £124.7 million or £130.4 million. Conversely if the allocation of time to HSC by role decreased by 10 percentage points then the overall total HSC cost would decrease by 9% to £110.2 million or £115.9 million



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# *List of Appendices*

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<i>Appendix</i>	<i>Title</i>
<i>A</i>	<i>Branch questionnaire</i>
<i>B</i>	<i>Owner questionnaire</i>
<i>C</i>	<i>Head office questionnaire</i>
<i>D</i>	<i>Frequently asked questions and guidance sent to contractors</i>
<i>E</i>	<i>List of HSC and non-HSC services</i>
<i>F</i>	<i>List of “Other branch costs” allocations</i>
<i>G</i>	<i>Final Methodology Paper</i>
<i>H</i>	<i>Intangible asset valuation</i>
<i>I</i>	<i>Weighted average cost of capital</i>
<i>J</i>	<i>Final Fair Returns Options Paper</i>
<i>K</i>	<i>Expert Group Meeting December 2015 presentation</i>
<i>L</i>	<i>List of Other staff roles, costs and allocations</i>





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