PERFORMANCE AUDIT MANUAL

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Templates and Case Studies

2020

Preface

This volume accompanies the Performance Audit Manual to which reference should be made.

The volume comprises **Case Studies** that shows how to identify examples of good international practice and the questions to ask when undertaking a **performance audit**.

Copyright statement

Disclaimer statements

This manual has been developed by PASAI as a resource for SAIs in the Pacific region to help customise their own audit manuals.

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Version updates

It is important that records are kept of any major updates to the PASAI Regional Performance Audit manual

Version	Details of Updates made	Revised version issued	Signed off through GB approval (GP paper reference, dates, details)

Introduction

This volume accompanies the Performance Audit Manual to which reference should be made.

The volume comprises **Templates** which can be used during the Performance Audit process and **Case Studies** that cover:

- Example of Good Housekeeping Audit – Vehicles;
- Example of Good Housekeeping Audit – Printing; and
- Proforma Performance Audit Report - Health.

The Good Housekeeping audits are included to give information as to how basic Performance Audits can look. The reporting style does not follow that of the ISSAI.

The Proforma Report follows the ISSAI format and indicates what is expected to be included in each section.

This is not a complete Performance Audit Report but is intended as providing guidance as to the format which SAI should follow when reporting a Performance Audit. To aid in this process, some of the sections have examples of the sort of text which should be developed but in other areas there is guidance on the audit steps to be taken.

Template #1: Looking at Intangible Problems

PERFORMANCE AUDIT
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METHODOLOGY

An approach to Performance Auditing; a way of looking at intangible problems.

Instructions

1. *Answers to all questions should be indicated by a Tick (✓) in the appropriate column with comments as required*

2. *Any No answer or adverse comments must be referred either to the Main Points Schedule or the Outstanding Audit Works Schedule as appropriate.*

	Yes	No	Comments	Schedule Number
1 Methodology				
1.1 Liaise with Service Management; ascertain what they think might be areas where value-for-money could be improved.	-	-		
1.2 Consider the area to be audited as a System. List inputs and outputs to this system using appended Management Overview Diagram.	-	-		
1.3 Are you sure that you know what your objectives are?				
1.4 Have managers any incentive to seek VFM?				
1.5 What do people want from the service? Are they getting it?				
1.6 Is the way the service is provided ever reviewed? If so, specify how often and when review last took place.				
1.7 Which parts of the service, if any, must be provided by law (statutory) and which not (discretionary)?	-	-		

1.8 Does the budget system restrict choice of policy?				
1.9 What are realistic alternatives?	-	-		
1.10 How can performance be measured?	-	-		
1.11 Can you make comparisons with similar services within the organisation? If so, do so.				
1.12 Can you make comparisons with outside organisations? If so, do so.				
1.13 What are the levels of accountability?	-	-		
1.14 Have policy and/or management decisions lead to value-for-money ?				
1.15 What Management Information is available?	-	-		
1.16 Is it of any use?				
1.17 Can it be improved?				
1.18 Is the Management Information going to the right people?				
1.19 Are there any hidden subsidies (services provided at less than full cost)?				
1.20 If so, who benefits?	-	-		
1.21 Which areas are likely to contain waste, inefficiency or extravagance?	-	-		
1.21 Have Service Management followed up points				

from previous VFM Audits?				
1.22 Are there any specialist units within the service which can be used (e.g. Internal Audit; Management services)?				

Subject to the satisfactory resolution of the major points noted on Schedule x and clearance of the Schedule of Outstanding Audit Work (Schedule y), in my opinion we have met the overall audit objectives.

_____ _____

Signed Date

Template #2: Overall Arrangements

PERFORMANCE AUDIT

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OVERALL ARRANGEMENTS

Control Objective: To compare the organisation's arrangement for securing value-for-money with current best practice.

Instructions

3. *Answers to all questions should be indicated by a Tick (✓) in the appropriate column with comments as required*

4. *Any No answer or adverse comments must be referred either to the Main Points Schedule or the Outstanding Audit Works Schedule as appropriate.*

	Yes	No	Comments	Schedule Number
1 Vision				
1.1 Is there a Mission Statement?				
1.2 Is there any statement of significant changes or developments that management expects to occur in future years?				
1.3 Do these statements cover every sector of the organisation?				
1.4 Is there management commitment to achieve these aims?				
2 Strategy				
2.1 Is there a strategic plan covering three or more years into the future?				

2.2 If so, does it cover: • detailed analysis of the organisation's environment - physical, economic and social; • Planned changes in client, service and management priorities; • Standards of service to be produced by each area of the organisation defined in terms of output or results; • Planned allocation of staff and other resources; • Planned capital expenditure by project; • Planned source and application of funds; • Is the strategy made available to the general public and communicated to the staff?; • Is it reviewed annually? If so is this a comprehensive review or just in areas where expenditure increases or decreases are considered?; and • Are there contingency plans to deal with main risks to the overall plan?				
3 Structure				
3.1 Is the overall committee/board structure aligned to the management structure and to the organisation's policies and services.				
3.2 Has this structure changed with changing policies over the years?				
3.3 Is there a review mechanism to do this?				
3.4 Is the responsibility for each element of the organisation's activities clearly placed in the hands of one manager with minimal duplication of responsibilities?				
3.5 Can these managers recommend pricing actions, personnel changes and re-allocation of resources within their budgets?				
4 Systems				
4.1 Is there a long term policy review process?				
4.2 If so, does it cover: * The continued relevance of services, service standards and alternative methods of delivery; * Comparison with other similar organisations - both in the public and private sectors if possible;				

* Examinations of the use of scarce resources of skilled manpower, land buildings, equipment and energy; and * Potential for new information technology to improve services or reduce costs.				
4.3 Are there adequate processes for planning and budgeting?				
4.4 If so: * Is there an annual plan setting performance milestones for each service or function?; * Is there an annual budget placing responsibilities for income and expenditure on recognisable cost centres appropriate to the organisation?; Are output/performance measures considered as an integral part of the budget process and are they linked to the budget cost centres?				
4.5 Is there a system of performance review?				
4.6 If so, does it cover; * Whether budget holders receive regular monthly reports of actual versus budgeted income and expenditure within fifteen working days of the month's end; * Has the year-end audit identified major surprises in terms of over-expenditure or under-collection or have major overspends been noted in contract?; and • Do members/board receive regular quarterly performance review reports? Is there an annual review and is this made available to the general public?				

5 Skills and Staffing				
5.1 Are individual responsibilities of the top three levels of management clearly defined in terms of results to be achieved?				
5.2 Is every individual manager's performance regularly assessed by his/her superior against the agreed results and are training and development needs explicitly identified?				
5.3 Is there a system for rewarding managers who consistently achieve more than their planned results?				
5.4 Is there a significant investment in training for general management responsibilities for both members and officers?				
5.5 Does the organisation have to recruit middle management externally or does it bring on its own staff?				
5.6 Are all manpower vacancies subject to senior management review before being filled?				
6 Style				
6.1 Are questions of style ever discussed between the Chairman and the Chief Executive?				
6.2 Do the members/board ever meet staff, apart from senior management, to discuss individual departmental problems?				
6.3 Is responsibility for decision making and problem solving delegated as far as possible?				
6.4 Are attempts made to secure participation of employees and supervisors in decisions affecting their future and does the system encourage the development of people?				
6.5 Are steps taken by senior officers throughout the organisation to re-enforce the commitment to serving the public well? Has any employee been awarded for outstanding service?				

6.6 Examine the paperwork supplied to the board, by whatever name called, for a recent meeting and satisfy himself, for example, that: • Board Members received the material in good time. Say at least five days before the meeting; • All the relevant facts (and **only** the relevant facts) were presented; • Appropriate options has been identified and evaluated; and • Manager's recommendations were clear.				
6.7 To what extent does the board concentrate on important issues and how much time do they spend on the trivial.				

Subject to the satisfactory resolution of the major points noted on Schedule x and clearance of the Schedule of Outstanding Audit Work (Schedule y), in my opinion we have met the overall audit objectives.

_____ _____

Signed Date

Template #3: Follow Up Desk Review

Audit Report:

Date of Issue:

Name of Organisation:

#	Recommendations	Action Taken*	Status/ Progress	Reasons for Non-completion	Impact (if any)
1					
2					
3					

- As per the detailed Action Plan/Report submitted.

Case Study #1: Performance Audit Report on Vehicles

Title Page:

Performance Audit on Vehicles of [the Organisation]

Date

SAI

Table of Contents

[Omitted from Individual Case Study]

1. Introduction

1.1 Purpose of Study

This study reviews the organisation's transport arrangements in terms of "performance audit".

1.2 Terms of Reference

Terms of Reference for the study were:

> *"To investigate whether proper arrangements exist to secure value-for-money in the acquisition, operation and utilisation of plant and vehicles.*
>
> *To seek opportunities to reduce the cost of plant and vehicles, whilst maintaining the existing level of service."*

1.3 Scope of Study

The study covered all of the following aspects of the provision and maintenance of the transport fleet:

- **Management and Systems:** management responsibilities; budgeting and budgetary control; cost recording and reporting systems; and arrangements for re-charging users;
- **Economy and Efficiency of Vehicles:** operating costs; servicing and repair arrangements; vehicle availability; spares and tyre provisioning; fuel purchasing; replacement policies and their application; and
- **Economy and Efficiency in Environmental Health:** capacity provided; vehicle utilisation; arrangements for hiring in.

Environmental Health Department (EHD) was selected for study as a large user of transport in preliminary discussion with officers. There were no expectations that EHD would be other than a typical user department.

For convenience, the following vehicle users have not been examined during the study because the number of vehicles used is insignificant:

- Museum: 2 vans;
- Finance: 1 car;
- Secretary: 1 car; and
- Housing 1 car.

2. Method of Working

The study was undertaken by an external auditor, who was supported by an internal auditor and many other staff contributed to the study. The total external audit resource has amounted to 25 man-days. The arrangements to involve staff of the authority in the study have worked well and we are grateful of the assistance provided.

Our work during the study has involved:

- discussions with relevant officers;
- visits to various sites; and
- review of costs and performance data.

In this later aspect, the study has been constrained by limitations in the quality and comprehensiveness of the available data.

3. Vehicle Fleet

3.1 User Departments

The total vehicle fleet as at 1 April 20xx amounted to 163 vehicles.

The composition of the fleet varies widely according to the user departments specialist vehicle requirements. Of the total of 163 vehicles some 66% are standard production models. The balance comprises specialist vehicles which are either special purpose vehicles of a standard design (e.g. tractors) or standard production chassis/cabs with additional specialised plant mounted on them (e.g. tower wagons; refuse collection vehicles, street sweepers, etc.). The broad categorisation of the fleet is given in Table 1 below:

Table 1: Vehicle Fleet Profile

User Department	Vehicle Type				
	Car	Light Commercial	Medium Commercial	Specialist Vehicles	Total
Museum			2		2
Finance	1				1
Secretary	1				1
Housing			1		1
Leisure		2	5	5	12
Transport		3	4	3	10

Environmental Health		9	7	29	45
Technical Services		11	15	17	43
Building	1	28	18	1	48
Total	**3**	**53**	**52**	**55**	**163**

4. Sites

Most vehicles operate from a designated base at which responsibility and control is exercised. Vehicles remain at their bases overnight and when not in use.

The main sites are their purposes are shown in the following table. Vehicles not based or stores at these sites are parked at their normal operating base when not in use.

Table 2: Vehicle Sites

Site	Department	Functions
Hodsoll Road Depot	Technical Services	1. Petrol and Derv storage and issue; 2. Overnight parking for Technical Services vehicles; 3. Overnight parking for EHD vehicles; and 4. Inspection and lubrication point for EHD vehicles.
Mill Lane	Transport Department	1. Bus depot; 2. Derv storage and issue (buses only); and 3. Base for some Transport Dept. ancillary vehicles.
Darwin Close	Building Department	1. Petrol and derv storage and issue for Building Dept. vehicles; and 2. Overnight parking for Building Dept. vehicles.
Bennett Road	Transport Department	1. Vehicle maintenance and repair workshop; 2. Vehicle spares store; 3. Overnight parking for some Transport Dept., vehicles; and 4. Holding point for vehicles awaiting disposal.

5. Costs

5.1 Costs of Transport Provision

The accounting systems involved in recording transport costs make it difficult to establish clearly the total costs involved in operating the vehicles.

Table 3: Summary of Transport Operating Costs per Estimates

User Department	20XX-2 Actual (£'000)	20XX-1 Estimated Out-turn (£'000)	20XX Budget (£'000)
Environmental Health	486.0	480.6	294.2
Housing	9.5	10.1	11.1
Leisure	89.2	104.7	71.8
Museum	7.1	8.2	5.0
Technical Services	26.5	30.0	25.0
Finance Department	20.5	20.6	20.7
Total	**£638.8**	**£654.2**	**£326.8**

The significance of these figures is constrained by the following limitations:

- Costs relating to the operation of ancillary vehicles by the Transport Department are not separately identifiable and the costs relating to vehicles operated by the Direct Labour Organisation (DLO) of the Building Department and Technical Services Departments are outside of the Estimates; and
- The 20XX Budget is not directly comparable with previous years due to a change in the method of charging provision for replacement to the vehicle replacement fund. This has been brought about by the constraints placed upon capital expenditure and spending limits.

Our primary source of vehicle cost data has been the Haulage and Plant System which provides a means of recording costs against all the authority's vehicles with the exception of Building Department whose transport costs are recorded on a totally separate system. The actual costs reported for the main transport users for the last two financial years are shown in Table 4 and differ considerably from those in Table 3 for the following reasons:

- DLO vehicle costs are not included in the Estimates; and
- Some transport costs are not separately identified in the General Rate Fund Estimate document.

Table 4: Transport Operating Costs: Main User Departments

User Department	Total Costs	
	20XX-2 (£'000)	20XX-1 (£'000)
Environmental Health	432.9	497.4
Leisure	62.1	71.5
Technical Services	145.3	174.7
Transport	11.5	15.6
Total	£651.8	£759.2

These costs are made up of the following items:

- Depreciation (at estimated replacement value);
- Petrol;
- Oil;
- Repairs and Maintenance;
- Tyres and Batteries; and
- Road Fund Licence and Insurance.

The Building Department transport recording system accumulates data against each vehicle for which a record exists on the master file but we were unable to use the information on this system because:

- A master file record does not exist for every vehicle on the system; and
- Petrol issues were only entered into the system for the first half of the year and the value reported are, therefore, incomplete.

We, therefore, found it necessary to examine the financial ledger where a separate account is maintained for each category of transport cost on a vehicle by vehicle basis. From this source, we were able to establish that transport costs in the Building Department were of the order of £120,000 for the year 20XX-1.

From the various sources of transport data examined, we were able to establish that total costs involved in operating transport were in the region of £900,000 for 20XX-1.

The approximate replacement value of the fleet as set out in the vehicle replacement schedule is currently estimated at £1,680,000 as shown in the following table:

Table 5: Ancillary Vehicles: Estimated Replacement Value

User Department	Number of Vehicles	Estimated Replacement Value (£'000)
Museum	2	15
Finance	1	5
Secretary	1	20
Housing	1	5
Leisure	12	100
Transport	10	78
Building	48	205
Technical Services	43	385
Environmental Health	45	877
Total	**163**	**£1,680**

5.2 Conclusions

We encountered a number of problems in our attempts to obtain total annual transport costs from a number of sources and were unable to establish one source of information from which to gather consistent data in respect of all the authority's vehicles.

This led us to conclude that:

- the cost of transport, as presented in the Haulage and Plant Statistics, is the main source of management information on vehicles but this is **not reconciled with the financial ledger**; and
- **comparisons between years are invalidated** by unreconciled changes in the basis of accounting for transport costs.

6. Departmental Responsibilities

6.1 Introduction

Transport Department provides a centralised service for all departments which operate vehicles and mechanical plant. This service embraces scheduled maintenance, repairs, processing accident claims and the procurement and disposal of vehicles.

Transport Department provide technical advice on vehicle types and suitability and act, in effect, as a buying agent for user departments by submitting applications for approval to purchase to the appropriate committee and by processing purchases. Vehicles are normally purchased by competitive tender but were special purpose vehicles are concerned it is often necessary to purchase from a named supplier to meet the user's agreed technical requirements.

Servicing and repair work is carried out from a recently established workshop operated by the Transport Department at Bennett Road. In addition, some vehicle inspection and routine lubrication work is undertaken on the EHD fleet at the Hodsoll Road depot near the town centre. This involves fitters travelling to Hodsoll Road, usually during the afternoons.

A night shift is operated at Bennett Road as a means of avoiding, as far as possible, down-time on vehicles involved in essential services and to reduce to the minimum the need for back-up or hired-in vehicles.

Routine maintenance is carried out on a programmed time cycle and follows the guidelines laid down in the "Operator's Guide" published by the Department of Transport.

Repair work is carried out according to need as it arises. User departments may request work by submitting a defect report sheet or the need for repair may arises from faults being discovered during routine maintenance.

The Transport Department carried a stock of vehicle spares. These spares are kept in a small store at Bennett Road and are restricted to fast moving items only. All other spares are bought in as required and it is the responsibility of the Transport Department to obtain all spares at the most competitive prices available.

All vehicles introduced to the fleet or taken out of service are handled by the Transport Department who submit the necessary notification to the Finance Department for the commencement or cessation of insurance cover and the purchase or surrender of road fund tax. In effect, the Transport Department is responsible for ensuring that all vehicles are taxed when on public roads.

Disposals are the responsibility of the Transport Department and it is current policy to dispose of all vehicles through British Car Auctions. Vehicle replacement policy and vehicle servicing policy were both formulated by the Transport Department and have been in force for a number of years. Transport Department oversee both policies and user departments have little discretion in the operation of these policies.

6.2 Responsibilities of Users

User departments are regarded as being responsible for the number and mix of their vehicle fleet.

User departments bear all relevant costs, including:

- costs incurred in operating the vehicles; including fuel, tyres and other consumables;
- maintenance and repair costs;

- cost of additional and replacement vehicles; and
- road fund licence and insurance.

The user is responsible for ensuring that each vehicle is fully serviceable. This involves regular checks by the user of oil and water levels, lights, indicators, etc. and a general visual inspection of the vehicle. For refuse collection vehicles, EHD are provided with a daily inspection service by the Transport Department's service depot, for which it is charged. There is a defect reporting system which enables drivers to record defects for rectification by the Transport Department servicing function.

The user departments are responsible for notifying accidents and for ensuring that the driver completes an accident report form. Where an insurance claim is involved, the user departments must complete claim forms but, thereafter, they have no further involvement unless the claim is not met fully, in which case the user departments bears the cost.

The operational use of vehicles is, in all respects, fully the responsibility of the user department.

6.3 Other Department's Responsibilities

Three departments have direct involvement in matters relating to the transport fleet:

- **Finance Department:** the insurance section is responsible for submitting and settling claims upon the Organisation's insurers. The accountancy section administers the vehicle replacement fund and collates the vehicle replacement schedule for each user department;
- **Technical Services Department:** petrol and derv storage and issue at the Hodsoll Road depot is controlled by Technical Services Department which, as well as supplying their own vehicles, issue fuel to EHD vehicles based at this depot; and
- **Building Department:** Building Department have their own on-site petrol and derv facilities at Darwin Close and supply fuel to their on vehicles only.

6.4 Conclusion

From our discussions with the main user departments we were able to draw the conclusion that responsibilities for transport resources are:

- well defined;
- clearly understood;
- correct in principle; and
- appropriate to the task.

By charging user departments for servicing and repairs, fuel, oil and tyres, insurance and road fund licences, the organisational responsibilities and relationships are fully reflected in the financial procedures.

7. Vehicle Replacement and Purchasing

7.1 Policy

The vehicle replacement policy is founded on a time basis using what are considered to be appropriate life cycles for each category of vehicle. The stated policy is contained in Table 6 below:

Table 6: Vehicle Replacement Policy

Vehicle Type/Category	Estimated Life Cycle for Replacement (years)
Light Commercials	4
Trucks and Heavy Commercials	6
Refuse Collection Vehicles	6
Street Cleaning Vehicles	6
Tractors	10
Tower Wagons	10

There are some minor exceptions to the application of this policy. Two commercial vehicles operated by the Museums Department are scheduled for replacement after five, rather than four, years and a tractor used by EHD after 13, rather than 10, years. Otherwise, all vehicles initially appear on the replacement schedule strictly in accordance with the stated policy.

7.2 Basis of Policy

Whilst the replacement policy has been in operation for several years in its present form, there is no quantified basis supporting the policy. Our examination of running costs, incurred by similar vehicles, shows wide variations. This suggests that to replace vehicles in accordance with age will not necessarily ensure the most economic replacement. The condition and service history of individual vehicles is reviewed by the user departments and the Transport Department as they become due for replacement. We were informed that this tends to lead to postponing the replacement of a vehicle which is still operating efficiently but does not often lead to the early replacement of a vehicle which is proving expensive to operate. Some switching of the order of replacement occurs but this is restricted by the price compatibility of vehicles. Only if a vehicle due for replacement, but suitable for

retention for a further period, is of a similar value to one requiring replacement ahead of schedule is it practical to adjust the cycle within the stated policy.

7.3 Building Department

Over the last two years the Building Department has moved away from replacing vehicles by purchase due to the financial implications of capital expenditure on any department operating as a DLO. During the previous financial year vehicles due for replacement were disposed of in the normal way but replaced by vehicles obtained on a five-year lease agreement.

This decision was taken entirely on the grounds of reducing capital investment rather than as a result of a detailed study of the alternative methods of vehicle acquisition.

More recently vehicles due for replacement have been disposed of and new vehicle requirements been met by hiring in vehicles from a local dealer. This is an unusual arrangement involving an informal arrangement to provide suitable vehicles on a short-term rental basis but at rates said to be competitive with long term contract hiring rates. No detailed cost comparisons have been made between owning, leasing and hire but the flexibility provided by short term hire is considered by the department to be the key benefit as it allows transport resources to be adjusted to match demand at very short notice. No evidence was presented to demonstrate the extent to which short term flexibility is necessary.

7.4 Vehicle Replacement Expenditure

Changes in the vehicles fleet for the past two years are set out in Tables 7 and 8 below:

Table 7: Vehicle Acquisitions

Year	Operating Department	# of Vehicles	Total Value (£)
20XX-2	Housing	1	3,367
	Environmental Health	7	120,224
	Technical Services	3	9,090
	Leisure	3	24,667
	Building	12	47,002*
	Total	**26**	**£204,350**
20XX-1	Housing	-	-
	Environmental Health	5	135,597
	Technical Services	1	3,568
	Finance	1	18,466
	Building	5	18,895*
	Total	**12**	**£176,526**

* Capital value of vehicles on Five Year Leases.

Table 8: Vehicle Disposals

Year	Operating Department	# of Vehicles	Realisation (£)
20XX-2	Environmental Health	8	5,525
	Technical Services	4	2,115
	Leisure	1	390
	Transport	1	530
	Total	**14**	**£8,560**
20XX-1	Environmental Health	1	690
	Technical Services	2	2,460
	Building	4	380
	Total	**7**	**£3,530**

7.5 Replacement Fund

Funds for vehicle replacements are accumulated in a vehicle replacement fund administered by the Finance Department. Inputs to the fund are based upon monthly depreciation charges against each vehicle. These charges are calculated according to a factor applied to the anticipated replacement cost of each vehicle, to accumulate a provision equal to the expected cost of acquiring a vehicle on the due date.

Due to late replacement and non-replacement of vehicles in recent years and lower than anticipated inflation in new vehicle prices, the fund has accumulated a surplus in excess of £1 million at April 20XX.

The balance in the fund cannot be used at present to make scheduled replacements without an adverse effect arising doe to current government policy on capital expenditure by local authorities.

The monthly provision for replacement charged against each vehicle has been suspended for 20XX pending a detailed review of the fund. Monthly operating costs as reported by the Haulage and Plant Statistics will, therefore, not reflect a charge to the user for the capital value of the vehicle until the position has been reviewed.

7.6 Purchasing

The standard procedure for obtaining vehicles is by competitive tender. This procedure involves submitting vehicle requirements to three or more potential suppliers and accepting the lowest tender. Certain special purpose vehicles have to be bought from a nominated supplier to meet user specifications.

Wherever possible opportunities for testing trials, demonstrations, consultation with other operators and visits to manufacturers are pursued as an essential part of the selection process.

In some instances, vehicles perform a two-stage function by undergoing conversion from one purpose to another. This arrangement applies to refuse collection vehicles where the chassis/cab has a longer life than the refuse disposal machinery. At a suitable point in time these vehicles are converted into gritters. As these vehicles are only used during the extremes of winter, this provides a lower cost solution than the purchase of new vehicles.

7.7 Conclusions

Whilst the replacement policy has been in operation for several years in its present form there is **no quantified basis to support it**.

The practice of reviewing the replacement schedule by a process of consultation between Transport Department and user departments offers some flexibility within a strong replacement policy but we were given the impression that this serves to delay the replacement of vehicles which have been lightly used more often than to bring forward the replacement of heavily used vehicles exhibiting high maintenance costs.

The rigid nature of the replacement policy according to vehicle age appears to deter users from delaying replacement, even if a vehicle is suitable for retention, for fear of losing an opportunity to obtain new vehicle in the future. Purchasing policy fails to take full advantage of the authority's buying power. Despite the forward scheduling of replacements tenders are sought for immediate requirements only.

With only minor exception we found a general absence of cost justified cases for vehicle replacement.

7.8 Recommendations

Formulation and operation of a vehicle replacement policy is a subject of some complexity. Considerable research has gone into developing sophisticated policies for vehicle replacement.

We, therefore, **recommend** that immediate attention be given by Transport Department to:

- obtain and review available research material;
- review existing policies in the light of research and prepare an updated policy; and
- establish and maintain a procedure for updating policy.

We also recommend that the provision of allocated funds in the vehicle replacement schedule as part of the annual budget should not be regarded as a proven need to spend. Rather, each vehicle replacement application should be subject to a presentation of the facts supporting the case for replacement.

A check list of the points to be covered in the justification should be prepared. When an application for replacement is made, it is the user's responsibility to ensure all points are covered.

The checklist should include:

- details of the vehicle being replaced;
- details of the proposed replacement;
- utilisation of the fleet of which the vehicle forms part;
- replacement policy applied;
- the date the policy was last reviewed;
- operating costs incurred by the vehicle to be replaced;
- alternatives considered, complete with evaluation; and
- a statement of recommendation.

Where the vehicle being replaced is not a direct replacement (i.e. an additional vehicle or a vehicle of very different price, size or function from that being replaced) a full cost benefit comparison with direct replacement must be provided.

For specialist vehicles which have different specifications, cost/performance justifications must be submitted.

The current practice of purchasing individual and small lots of vehicles by separate tender should be reviewed. A tender to cover a number of vehicles over a particular period (e.g. a year) rather than separate single transactions may provide the opportunity to negotiate a more advantageous price.

8. Servicing and Repair

8.1 Depot Arrangements

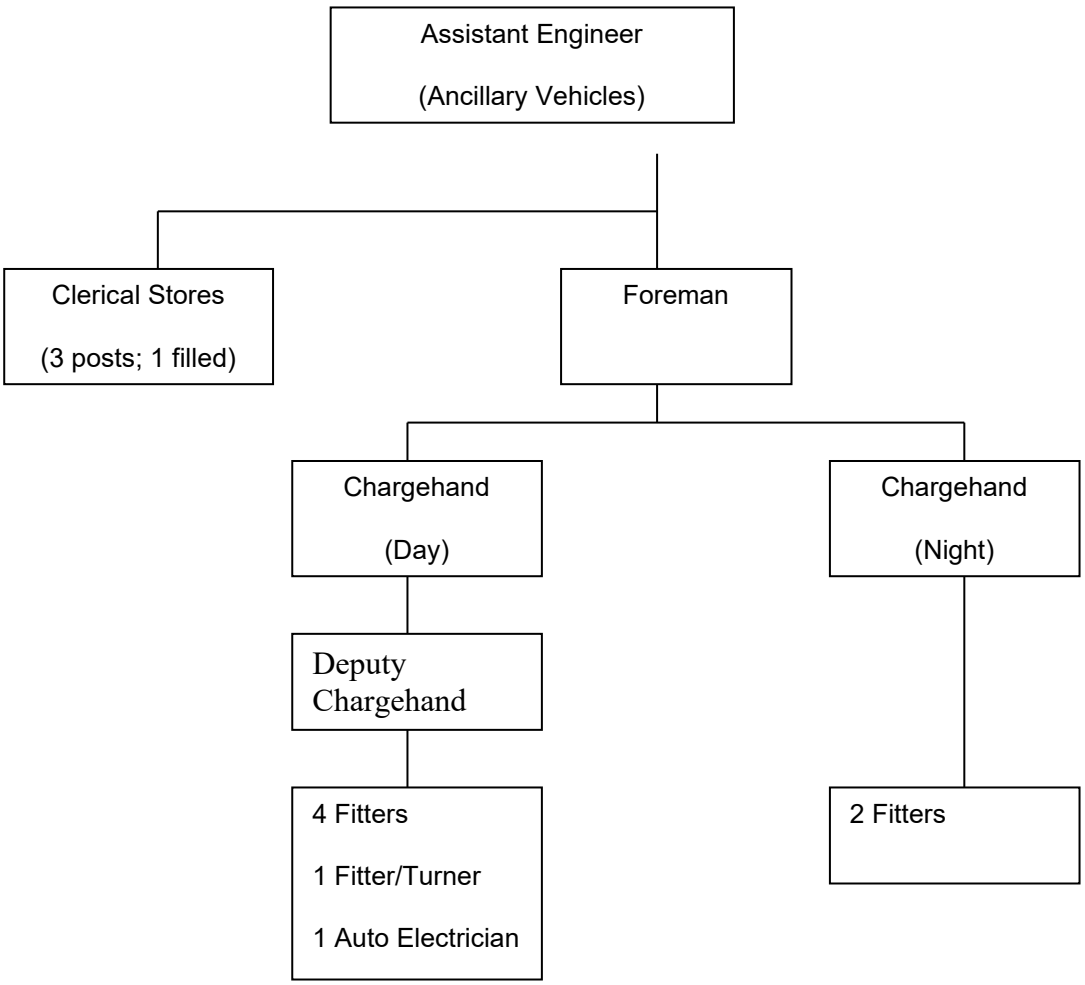
The vehicle servicing depot is operated by the Transport Department. In April 20XX it was relocated from old premises at Blakes Lock to a new purpose-built workshop at Bennett Road.

This new depot adjoined a workshop for bus repairs and maintenance but operates as a self-contained unit. It is equipped to carry out repairs and maintenance required by the fleet as well as annual Department of Transport testing and some accident repair work. The latter is individually assessed to see whether it is within the depot's capacity or whether it should go outside to a commercial repair shop.

The workforce comprises thirteen productive personnel, three of whom operate a night shift to ensure urgent repairs can be completed with the minimum downtime. Some limited facilities exist at Hodsoll Road depot to allow lubrications and other minor repairs, requiring a minimum of specialist equipment, to be carried out of vehicles based there without the necessity for them to travel to Bennett Road.

Day to day control of the service function is the responsibility of the Assistant Engineer (Ancillary Vehicles) and the work force is structured as in Table 9 below:

Table 9: Organisational Structure: Transport Service Department



8.2 Servicing Policy

Frequency of servicing is based on guidelines provided to "O" licence operators by the Department of transport. Adherence to those guidelines is considered of paramount importance for the protection of the Organisation's "O" licence. The guideline recommends that, in addition to following the manufacturer's routine maintenance schedules supplemented by a defect reporting system, a regular inspection should be made of each vehicle:

> *"to determine the condition of those items which make a significant contribution to their safe operation".*

The guidelines recommend that these inspections be carried out at regular, pre-determined, intervals of time or mileage. All organisation vehicles are inspected and serviced on a time basis, regardless of mile, although some recent modifications have been made in respect of small commercial vehicles to reduce the amount of work done if mileage since last service is low. The servicing of vehicles to a strict time schedule is considered by the Transport Department to be preferable to a mileage basis as it provides an even and pre-determined flow of work.

Service intervals are every three months for light vans and pick-ups and monthly for large commercial vehicles and specialist vehicles. routine service work is controlled by a series of service schedules to cover each vehicle category in the fleet and these schedules form both the instruction to the fitter as to the checks or work to be carried out and as the vehicle history sheet to provide a complete service history record for each vehicle.

Attention has previously been drawn to the fact that, whilst present policy is extremely thorough and well controlled by the use of standard schedules, servicing on a purely time basis may give rise to over servicing. An examination of 33 vans should that all had done less than 10,000 miles in a year but were serviced four times, twice the manufacturer's recommendation. It appears that savings can be made by less frequent services. There is an absence of readily available data, nor has any analysis been undertaken, on the frequency with which faults are found during inspections which, if adequately gathered and reported, would provide a sound basis for establishing and planning service schedules.

8.3 Servicing Labour Rate

Transport Department repair workshop operates as a vehicle servicing centre for vehicle users. Maintenance and repair work undertaken is recharged internally to the user departments. Labour is charged at an hourly rate which includes an on-cost calculated to absorb the total operating costs of the repair workshop. Parts issued from stock are recharged to the user at average cost. Specially purchased spares are charged direct to the user departments at cost and do not appear as an input into, or transfer out of, Transport Department.

The current labour rate is labour cost plus 270%. This has not been reviewed for two years. The change from Blakes Lock to Bennett Road indicates that a new, higher, on-cost will need to be applied to absorb the new overheads.

In our discussions with user departments we found that the current labour rate was generally thought to be in the order of £9 per hour, a competitive rate relative to that ruling in commercial repair workshops. At the same time, some user departments expressed the view that servicing costs were high, contradicting the competitiveness of a £9 per hour labour rate.

An investigation of a small sample of repair jobs revealed that, in practice, the hourly labour rate varies from job to job. We identified certain jobs where the effective labour rate was in excess of £15 per hour. The variations in labour rate are brought about by a number of factors.

Firstly, the labour cost on an individual job to which the on-cost is applied can vary according to:

- the rate of pay of the fitter(s) involved;
- overtime working;
- holiday/sick pay; and
- back pay.

Secondly, time can be charged to a job which would not necessarily be rechargeable in a commercial environment such as rectification of faulty work and time spent collecting spares.

8.4 Charging the User

The actual charge made to user departments in respect of jobs is communicated to the user through the Haulage and Plant Statistics (HPS) system where individual jobs are accumulated within months. Consequently, the user is not aware, on a job by job basis, of the repairs and maintenance costs being incurred by each vehicle although, of course, there is general awareness of large repair jobs as they arise due to the non-availability of the vehicle concerned. The HPS system gives only the total figure for repairs and maintenance for each our week period and does not distinguish between, for example, inspection, routine service maintenance, resulting repair, emergency repair and rectification of defects reported by the user; this being a very obvious analysis structure given the present arrangements.

Users also complain that the departmental reports from the HPS system are consistently late, being issued some two to three months in arrears. This tends to discourage users from reviewing vehicle costs in detail and consequently there is a general failure to seek explanations for exceptional costs.

No reporting procedure exists for notifying user departments of faults arising from driver abuse.

8.5 Level of Servicing Costs

The failure of the existing reporting system to separate repair costs from scheduled maintenance means that maintenance costs for each vehicle can only be reviewed in

overall terms. Nevertheless, the system does provide for the recording of vehicle usage and mileage which, if used, provides the means to calculate and compare operating costs per mile and per hour of service.

Unfortunately, this facility is not fully utilised by any user department and it was, therefore, necessary for us to undertake a separate study to compare costs. Our sample was restricted to those vehicles for which reasonable mileage data was available and we were unable to collect any reliable data on vehicle usage in hours. Consequently, we were only able to review vehicle costs on a cost per mile basis. A review of Escort and Marina vans revealed repairs and maintenance costs ranging from 2p to20p per mile, with the majority between 4p and 7p per mile. Sherpa and Transit vans showed a range of 4p to 29p per mile, with the average being 9p to 10p per mile. Even without the benefit of comparative costs from external sources, an internal comparison of this nature shows a wide variation in each category of vehicle and is a useful means of reviewing fleet costs.

8.6 Efficiency

The vehicle workshop personnel are paid by an hourly rate based on attendance coupled with a bonus system based on an efficiency index related to the number of jobs completed against a target throughput. No account is taken of individual job times and only a few operations are subject to standard times. 66% of the fleet is made up of near standard vehicles for which the majority of repairs and maintenance jobs have standard times issued by the manufacturer. Without the use of standard times or some similar system there can be no adequate measure of efficiency and the performance of the workshop can be judged only in terms of its success in meeting demand for its services.

8.7 Efficiency

The performance of the workshop is notable in that no users complained as to the quality of work produced by the Transport Department nor the turnaround provided, a very favourable comment on the quality of day-to-day supervision within the workshop. Despite the absence of reliable records of vehicle downtime complaints centred on unreliability of individual vehicles due to specification rather than on any shortcomings of the Transport Department.

8.8 Conclusions

Our review of the Transport Servicing function led us to draw the following conclusions:

- the department appears **well organised but heavily dependent upon direct supervision for control** rather than on actual measures of performance;

- service intervals based on time, regardless of mileage clearly benefit the Transport Department in terms of planning workshop loading but do not necessarily benefit the user in terms of costs incurred and loss of use;
- the lack of consistency in the hourly labour rate applied gives rise to instances when the charge to the user is probably greater than that which would apply in an external vehicle repair shop;
- without the use of standard times or some similar system, the measurement of effectiveness is based on the performance of the workshop in meeting demand for its services;
- the lack of an internal advice to the user of work done leaves the user department accepting repairs and maintenance charges by default; and
- failure to log and report complaints or faults after service requiring rectification prevents the quality of the service from being monitored. the only measure of quality is the almost non-existent level of critical opinion expressed by users.

8.9 Recommendations

We consider that improvements in the service to the user would follow from taking the following steps:

- reviewing service intervals to take more account of mileage covered by individual vehicles;
- establishing a standard hourly rate based upon the total operating costs to be recovered by the number of productive hours available;
- revising the existing service documentation procedures to provide user departments with details of work done, materials and spare parts issued/ purchased and their cost on a job by job basis;
- measuring time taken against scheduled standard times wherever possible to provide a measurement of workshop efficiency; and
- reporting the costs incurred and internal revenue earned by Transport services on a period and cumulative to date basis as set against budget.

9. Spares Provision

9.1 Policy

The stores area at Bennett Road is restricted in size and has no full-time storekeeper. The policy is to stock fast moving items and tyres which can be purchased in bulk, together with a limited range of essential spares which, although slow moving, are necessary to ensure that any vehicle failure arising can be speedily rectified. These

items are kept in low quantities, often singly, and are usually specialist items for special purpose vehicles which are subject to long delivery lead times.

All other spare requirements are purchased as required, from local sources for standard spares and from vehicle manufacturers or specialist suppliers for other requirements.

The value of stock on hand is in the order of £30,000. Issues from stock are estimated to be between £150,000 and £200,000 per annum to give an annual stock turnover rate of between five and six times per annum.

In addition to this value of spares purchases, slower moving spares and specialist items are purchased as required. These are initiated by the Transport Department but purchase invoices are allocated directly to the finance account code concerned. Thus, the annual value of spares purchased in this way is not readily available.

9.2 Purchasing

No formally stated spares purchasing policy exists. The majority of spares are purchased as required from established sources of supply.

Standard stock items are bought from local motor distributors and factors at the best price obtainable at the time, having regard to the quantity required. Fast moving lines are purchased at quantities which provide the maximum trade discount available, within bounds of known usage rates.

Slower moving lines are bought from similar sources of supply at the best trade terms available at the time, having regard to the urgency with which they are required.

For both standard stock items and slower moving items no negotiations are undertaken to secure standard items to cover requirements for a fixed period based on estimated volumes, dependence being placed upon the price levels obtainable by the effects of competition between rival suppliers.

Specialist vehicle and related equipment spares are often available from a limited source of supply, sometimes the original manufacturer only and scope for negotiated, especially favourable terms in this area is strictly limited.

There is no overall monitoring of terms obtained and no suitable data is readily available to indicate buying performance and actual prices achieved, despite the fact that an annual expenditure in excess of £150,000 is involved.

9.3 Stores

The stores area at Bennett Road occupies a limited space adjoining the works office. All standard stock items are therefore reasonably secure in that office staff are in a position to supervise and record stock movements. It is accepted that this part time storekeeping role is contained within the job functions of the establishment of three clerical staff. Due to one resignation and one long term illness, the current

operational staff level is down to one clerk but we observe no serious lack of security as a result.

Small items such as nuts, bolts, washers and other consumables are on free issue in the main workshop area.

The higher value and more attractive items, such as tyres and batteries, are kept in locked cabinets within the stores.

9.4 Conclusion

We found that, due to a lack of data on prices achieved on spares, it was not possible to offer an opinion as to the economy of purchasing.

Purchasing performance may be capable of improvement by establishing longer term supply arrangement with key suppliers for planned requirements.

9.5 Recommendations

In order to review performance, it is first necessary to accumulate suitable data.

Under the main categories of spares, we **recommend** that records should be kept, for a sample of items, to gather the following data:

- actual prices paid;
- average prices paid;
- delivery costs incurred;
- discounts achieved;
- annual unit consumption; and
- volumes of non-stock purchases.

This data would provide the basis to review the economy of purchasing by:

- discussion and comparison with other fleet operators; and
- negotiation with suppliers on term supply contracts.

10. Fuel Purchasing

10.1 Purchasing Arrangements

The Organisation has three separate locations for the storage and issue of road fuel. These three points are:

- Transport Department; Mill Lane - derv only;
- Building Department; Darwin Close - petrol and derv;
- Technical Services Department; Hodsoll Road - petrol and derv.

In addition to these sources of supply, some user departments also have arrangements with local garages for the supply of petrol on a monthly account basis.

Total value of issues from the Organisation's own pumps at Darwin Close and Hodsoll Road currently amount to c£130,000 per annum. We did not review the issues from Mill Lane as fuel issued from this point is for the passenger transport fleet only. Each of the three departments which hold fuel have their own purchasing arrangements, see Table 10 below.

Table 10: Fuel Purchasing and Stocking Arrangements

Purchasing Department	Stocking Point	User Departments	Annual Volume ('000 litres)	Contractual Arrangement
Transport	Mill Lane	Transport Department only	Derv: 2,400*	None: price reviewed monthly via Southern area transport users group
Building	Darwin Close	Building Department only	Derv: 26 Petrol: 60	None: supplier selected by periodic tender (two-year gap between last two)
Technical Services	Hodsoll Road	TSD EHD	Derv: 108 Petrol: 26	None: requirement to go to tender waived

* Issues are exclusively to the bus fleet which did not form part of this study.

A recent study carried out by internal audit revealed that each of the three purchasing points were buying from Conoco, **but at different prices**.

Special price terms are available in conjunction with other organisations in what is known as the "special agreement". Other departments purchasing fuel were found to be using a variety of sources of supply at widely differing prices. The terms involved attracted surcharges of between 2.6% and 7.5% for credit facilities and discounts of between nil and 5.5%. Purchases from local garages have now been standardised on the supplier offering the most favourable discount and any other supplier is only sanctioned if these terms are equalled. Vehicle mileage is rarely recorded when fuel is issued, a point at which useful control of consumption could be applied.

10.2 Security

All petrol driven vehicles have lockable petrol caps.

The issue of petrol and derv at Darwin Close is restricted to Building Department only and is under the control of a storekeeper who is available at certain designated times. At other times the pumps remain locked. The keys to the petrol cap locks are held at Darwin Close to prevent access to fuel tanks outside of the depot.

At Hodsoll Road a storekeeper is responsible for supervision of issues and directly controls the issue of petrol. Derv is largely left to the driver to issue on the grounds that the risk of pilferage of derv is minimal.

All petrol driven vehicles are purchased with low compression engines and run on two-star petrol. This is considered a deterrent to pilferage as most private cars require four-star petrol.

As a result of the recent internal audit study a new system to control issues is being installed at Hodsoll Road which will provide computer controlled recording of fuel issues against each vehicle, using unique keys to identify both vehicle and driver. The benefits of this system are claimed to be improved security, 24 hour availability and reduced staffing requirements. The outlay involved is estimated to be less than £4,000 with wages and overheads savings giving a payback period of less than a year.

10.3 Conclusions

Much attention and effort seem to have been devoted to security of fuel storage and issue but there is a lack of co-ordinated fuel purchasing both for bulk storage points and for fuel supplied to individual vehicles. The internal audit report revealed considerable scope for rationalising fuel purchasing and positive steps have been taken towards this end.

Potential savings of between £5,000 and £7,000 per annum have been identified by closing facilities at Darwin Close and obtaining fuel from a local garage or local garage and Hodsoll Road. There is clearly scope for some rationalisation but the scale of savings achievable requires a further study to develop in greater detail the findings of the recent study.

10.4 Recommendations

Our review of fuel purchasing suggests positive action can be taken to achieve real economies. We therefore recommend:

- all purchases of road fuel should be centrally negotiated to ensure maximum advantage is derived from the organisation's buying power;
- the buying price of fuel negotiated under the "special agreement" be kept under review as a comparison against the organisation's buying price;
- where fuel purchases from local garages are necessary, these should be monitored to ensure that negotiated prices and discount terms are maintained and that lowest possible purchase price is being achieved;
- a follow up study of the fuel purchasing survey carried in April should be undertaken to evaluate the savings achievable by any reduction or change in existing issuing points and, possibly, increasing tank sizes to obtain lower prices for bulk purchases; and

- by using the facility to input mileage details for each vehicle the HPS can be used to monitor mileage per gallon or per hour for each vehicle. This data provides a ready indicator of possible abuse of fuel issues and should be used as a simple check of fuel usage by each user department.

11. Operating Costs and Control

11.1 Cost Recording System

All vehicles and mobile plant, with the exception of those operated by the Building Department are recorded on the HPS system. The system provides for the following information to be accumulated against each vehicle for each four-week period and the year to date:

- **Heading:**
  - Fleet Reference Number;
  - Registration Number;
  - Vehicle Description; and
  - Cost.
- **Expenses:**
  - Fuel;
  - Oil;
  - Tyres;
  - Repairs and Maintenance;
  - Depreciation; and
  - Licence and Insurance.
- **Statistics:**
  - Period Mileage;
  - Fuel Consumed (Gallons);
  - Oil Consumed (Pints);
  - Miles per Gallon (Fuel);
  - Miles per Pint (Oil);
  - Cumulative Hours/Days Worked; and
  - Cumulative Cost per Hour/Day Worked.

If fully utilised this system provides a comprehensive record of each vehicle with the data required to monitor and control the running cost and usage of each vehicle. Our review of the system and its usefulness to the user departments revealed the following points:

- Four weekly reports are consistently in arrears; the report covering the final period for March 20XX-1 was produced in June;

- Recent printouts have been arithmetically inaccurate and no explanation has been available from the Computer Department due to a lack of documentation of the system;
- There is no validity check on vehicle codes. Coding errors can give rise to the input of data against the wrong vehicle or the creation of non-existent vehicles on file;
- No user department inputs all the data necessary to use the system in full. In particular, the Statistics section is very poorly supported;
- There is no facility to indicate when vehicles have been disposed. This permits charges to continue to be recorded against a sold vehicle long after its sale;
- There is no discipline within the system to ensure that new vehicles are placed on file as they enter the fleet;
- Routine maintenance and repair work, labour and spares are reported as one total. User departments have no guide as to exceptional repair costs other than the size of the total on this line. This is the only intimation of these costs that users receive;
- There is no facility within the system to report down time resulting from breakdowns and major repairs; and
- Repairs and Maintenance costs incurred by special purpose vehicles are reported as one total and there is no means of analysing the cost between the vehicle and its special plant without undertaking a separate investigation.

The Building Department's vehicles are recorded on an entirely separate system which provides a cumulative only total for each vehicle in respect of running costs incurred. There is no provision in this system for any statistics on mileage and utilisation and our review of a recent report revealed the following shortcomings:

- Midway through 20XX-1 the input of fuel issue costs against each vehicle ceased, rendering the total reported under the petrol column meaningless;
- A number of vehicles currently on the department's fleet have not been placed in the system which is therefore incomplete; and
- With a mix of owned, leased and hired vehicles in the fleet the information available is inadequate to make meaningful comparisons against the relative cost of each method of acquiring and operating vehicles.

11.2 Conclusions

The reporting system in its present form has the capability to provide sufficient information for each vehicle in each department to monitor the cost and performance of each vehicle. The **system is under-utilised due to the failure of user departments to input all the data required to obtain all the statistics which could be provided.**

The recurring delay in producing the four-weekly report is not a valid reason for not using the system to the full. We found a general lack of concern over vehicles which are apparently expensive to operate and a lack of awareness as to the reasons for exceptionally high costs reported against individual vehicles.

Details of work carried out on each vehicle, the conversion of time taken and materials issued on repairs into monetary values are the recharge of repairs at the internal sales value to the user departments are three operations carried out in three different locations. We concluded that this situation acts as a deterrent to user departments to investigate in detail exceptional costs on individual vehicles. There is no internal document which passes from the Transport Department to user departments to serve as an invoice for work done and, consequently, vehicle repair costs are accepted by default in many cases. Some user departments do, however, review and investigate individual repair costs.

Repairs and maintenance costs on specialist vehicles are not analysed between repairs to the vehicle and repairs to the plant and equipment mounted on the vehicle which further complicates the monitoring of repair costs.

The poor standard of data in the system and the lack of use made of it by line managers is consistent with the view that management control of the transport fleet does not extend to regular appraisal by users of vehicle operating statistics and other performance data.

11.3 Recommendations

In order to achieve some immediate improvement in control of vehicle cost and usage, we recommend that every vehicle operated by the organisation, including those owned, leased or hired by Building Department should be recorded on the HPS system.

We further recommend that:

- all user departments input all statistical data necessary to generate all the performance statistics possible for each vehicle;
- each department should prepare a budget for vehicle repair and maintenance and variances between that budget and actual costs incurred should be investigated and reported upon, the budget should be based upon expected operating mileage, operating hours and service intervals;

- the system should be modified to separate scheduled service costs from repairs and maintenance costs and costs incurred which can be attributed to driver abuse;
- the system should be modified to prohibit duplication of vehicle reference numbers and use of invalid codes; the use of check digits would provide a ready solution;
- commercially available standard fleet management software packages should be examined as a possible alternative to modifying the existing system; and
- plant and equipment mounted on standard chassis should be treated as separate items to allow repairs and maintenance costs to be reported upon and controlled separately from vehicle running costs.

12. Summary

12.1 Overview

In reviewing the organisation's transport arrangements, we have examined the factors affecting the ownership and operation of vehicles. These factors are listed in Table 11 below:

Table 11: Elements of Vehicle Ownership and Operation

Resource	Sub-section	Factor Being Measured	Measure
Vehicles		Acquisition	Prices paid
Consumables	Fuel, oil, tyres and spares	Purchasing	Prices paid
	Fuel, oil, tyres and spares	Usage	Consumption per hour/mile
Servicing	Labour	Wage Rates	Average hourly rate paid
	Labour	Productivity	Productive hours/ paid hours; Standard hours/ productive hours; Recovered hours/ paid hours
	Overheads	Total service overheads	Budgeted oncost
	Overheads	Control of overheads	Recovery achieved
	Insurance	Insurance costs	Premiums paid
	Insurance	Claims experience	Recoveries made

The scope of the study was limited in certain areas by the data readily available within the timescale involved.

It was beyond our Terms of Reference, and in any case there was a lack of suitable data, to draw firm conclusions on the questions:

- does the authority have the right vehicle types?;
- does the authority have the right number of vehicles?; and
- are the vehicles being used efficiently?

These questions would involve detailed examination beyond the scope of this study involving such issues as working practices and vehicle routing. In this study we have concentrated our attention on the economy and efficiency of the operation of the existing vehicle fleet. We would expect the study of effectiveness of transport to be the subject of a further study in the future.

We found that the management were generally aware of their transport needs, and able to explain the uses to which vehicles were put and the reasons for the low mileage of certain vehicles.

However, there was a general absence of cost justification for individual needs. Quality of service of the particular function was the primary concerned expressed by user departments.

12.2 Summary of Conclusions and Recommendations

12.2.1 Transport Costs

We **concluded** that:

- the cost of transport as presented in the financial ledger and in the budget is not a meaningful figure for management control purposes; and
- transport costs cannot be compared between years due to unreconciled changes in recording procedures.

We **recommend** that:

- the HPS system should be reconciled with the financial ledger to ensure that, as the primary source of management information, it remains consistent with the costs recorded in the accounts; and
- all departments should use the facilities of the HPS system in the same way, to permit meaningful comparisons to be made.

12.2.2 Departmental Responsibilities

We **conclude** that:

- Responsibilities for transport resources are:
  - well defined;
  - clearly understood;
  - correct in principle; and
  - appropriate to the task.

- By charging user departments for servicing and repairs, fuel, oil and tyres, insurance and road fund licences, the organisational responsibilities and relationships are fully reflected in the financial procedures.

We **recommend** that:

- more detailed information concerning costs recorded against individual vehicles should be provided to permit management to increase their awareness of the expenses incurred in operating vehicles.

12.2.3 Vehicle Acquisition

We **conclude** that:

- the replacement policy has not been reviewed for some time and there is no quantified basis to support it;
- there is some flexibility within the stated policy to allow for adjustment of the replacement schedule, but that this flexibility appears to delay replacement more often than to advance it;
- vehicle replacements and additions to the fleet are rarely subject to a detailed cost justification being presented as part of the application for approval to purchase; and
- the vehicle purchasing policy may not achieve maximum advantage from the authority's purchasing power.

We **recommend** that;

- the vehicle replacement policy be reviewed by:
  - examining data available from external research;
  - establishing and maintaining a procedure for updating the policy;
  - early replacement of vehicles should be authorised wherever improved economy or efficiency can be achieved;
  - a checklist for the submission of an application to purchase should be prepared; and
  - the present procedure for purchase by tender should be reviewed.

12.2.4 Vehicle Servicing and Repair

We **conclude** that:

- the department appears well organised but heavily dependent upon direct supervision for control rather than on actual measures of performance;

- service intervals based on time, regardless of mileage clearly benefit the Transport Department in terms of planning workshop loading but do not necessarily benefit the user in terms of costs incurred and loss of use;
- the lack of consistency in the hourly labour rate applied gives rise to instances when the charge to the user is probably greater than that which would apply in an external vehicle repair shop;
- without the use of standard times or some similar system, the measurement of effectiveness is based on the performance of the workshop in meeting demand for its services;
- the lack of an internal advice to the user of work done leaves the user department accepting repairs and maintenance charges by default; and
- failure to log and report complaints or faults after service requiring rectification prevents the quality of the service from being monitored. the only measure of quality is the almost non-existent level of critical opinion expressed by users.

We **recommend** that improvements in the service to the user would follow from taking the following steps:

- reviewing service intervals to take more account of mileage covered by individual vehicles;
- establishing a standard hourly rate based upon the total operating costs to be recovered by the number of productive hours available;
- revising the existing service documentation procedures to provide user departments with details of work done, materials and spare parts issued/ purchased and their cost on a job by job basis;
- measuring time taken against scheduled standard times wherever possible to provide a measurement of workshop efficiency; and
- reporting the costs incurred and internal revenue earned by Transport services on a period and cumulative to date basis as set against budget.

12.2.5 Spares Provisioning

We **conclude** that:

- due to a lack of data on prices achieved on spares, it was not possible to offer an opinion as to the economy of purchasing; and
- purchasing performance may be capable of improvement by establishing longer term supply arrangement with key suppliers for planned requirements.

We **recommend** that:

- under the main categories of spares, we recommend that records should be kept, for a sample of items, to gather the following data:

- actual prices paid;
- average prices paid;
- delivery costs incurred;
- discounts achieved;
- annual unit consumption; and
- volumes of non-stock purchases.

12.2.6 Fuel Purchasing

We **conclude** that:

- there is scope for further rationalisation of fuel purchasing beyond that already achieved.

We **recommend** that:

- every vehicle operated by the organisation, including those owned, leased or hired by Building Department should be recorded on the HPS system;
- all user departments input all statistical data necessary to generate all the performance statistics possible for each vehicle;
- each department should prepare a budget for vehicle repair and maintenance and variances between that budget and actual costs incurred should be investigated and reported upon, the budget should be based upon expected operating mileage, operating hours and service intervals;
- the system should be modified to separate scheduled service costs from repairs and maintenance costs and costs incurred which can be attributed to driver abuse;
- the system should be modified to prohibit duplication of vehicle reference numbers and use of invalid codes; the use of check digits would provide a ready solution;
- commercially available standard fleet management software packages should be examined as a possible alternative to modifying the existing system; and
- plant and equipment mounted on standard chassis should be treated as separate items to allow repairs and maintenance costs to be reported upon and controlled separately from vehicle running costs.

12.2.7 Summary

On the basis of these conclusions **we are genuinely unable to conclude that economy and efficiency are being achieved.** In the absence of adequate management controls and a strong user interest in the costs of owning and

operating the fleet, **we consider it probable that significant reductions in the resource cost of transport to the authority should be achievable.**

Apart from any expenditure involved in modifying systems or purchasing a ready-made package we consider that no additional costs need be incurred in implementing our recommendations.

Case Study #2: Performance Audit Report on Printing

PRINTING, DUPLICATING AND PLAIN PAPER COPYING

SAI

April 20XX

Table of Contents

[Omitted from Individual Case Study]

1. Introduction

1.1 Purpose of the Study

This study reviews the organisation's printing and duplicating arrangements in terms of "value for money".

1.2 Terms of Reference

The following terms of reference for the study, which were agreed by the Chief Executive, were set out in our letter to him dated 31 January 20xx:

> *"To review the printing, duplicating and plain paper copying services within the organisation, in order to establish whether adequate arrangements exist to ensure that value for money is being achieved and, if appropriate, to make recommendations for improvement."*

1.3 Scope of Study

The study aimed to examine the economy, efficiency and effectiveness with which the organisation provided printing, duplicating and plain paper copying services. In order to draw conclusions on each of these factors the study was undertaken in three stages;

- **Stage One:** fact finding;
- **Stage Two:** costing; and
- **Stage Three:** identification of the issues and alternatives affecting the present service provided.

It was agreed during meetings with officers stationery would be omitted from the study except to the extent that the relative costs of paper affect the costs of the services included in the study.

1.4 Background

The printing, duplicating and plain paper copying requirements of the organisation were historically provided almost exclusively by the Central Printing and Stationery Unit CPSU). However, the volume of work eventually outgrew the unit's ability to provide a totally satisfactory service. In order to relieve the volume pressures being placed on the central unit a number of major users developed in-house ability to cope with some of their own duplicating and copying requirements.

The result of this move was that some establishments established the capability to satisfy a high proportion of their reprographic needs, including litho-printing.

In addition, the organisation has a convenience copying facility. In order to provide this service, the Chief Executive negotiated a 30-month contract for 25 Nashua photocopiers. The photocopiers provided under the contract were of various models and selected models were placed at strategic points around the buildings.

Most recently, the organisation has allowed the development of a reprographic facility as part of its Topshop training scheme which is financed by the Manpower Services Commission. Although the primary objective is to provide trainees with the necessary skills to enable them to find employment, it does, nevertheless, also provide a reprographic facility which is used by departments within the organisation.

In addition to the specific facilities mentioned above, there are a number of photocopier machines operated by various small user sections.

1.5 Method of Working

The study was undertaken by our external auditor supported by the organisation's Cost Effectiveness Unit. Many other staff members were also involved in the study and we are grateful for the assistance they provided.

Our work during the study has involved:

- discussions with concerned officers;
- visits to various sites; and
- review of cost and performance data.

Due to time constraints under which the study was completed it was not possible to visit every site offering a reprographic facility. Site visits were, therefore, restricted to those which had sizeable operations. Our review of cost and performance data has been limited by the quality and comprehensiveness of the available information.

1.6 Manpower Services

The Manpower Services section of the organisation had, prior to this study, allocate the resources necessary to undertake a detailed investigation into the reprographic facility. This investigation will examine in depth the issues and alternatives highlighted in this report.

2. Policies

The purchasing manual issued by the Finance Committee states that, apart from exceptional specific departures which must be approved by the Finance Sub-committee, all orders for printing, stationery, office supplies and equipment must be made in accordance with the arrangements made by the Finance Committee.

The manual goes onto state that the Printing and Stationery Manager is responsible for obtaining quotations and accepting offers for the supply of printing stationery and office supplies, furniture and equipment in accordance with the organisation's Standing Orders and Administrative Procedures relating to contracts. In addition, the Finance Committee's terms of reference require it to make such arrangements as it thinks expedient for standardising the printing and stationery requirements for the organisation and for securing efficiency and economy in its supply.

Our visits to sites offering reprographic facilities outside the central unit highlighted instances where the purchasing manual requirements were not followed. For example, although most establishments purchased some consumables from the central unit, they did not feel inhibited about purchasing inks, paper and paper plates direct from a supplier. Direct purchasing was justified that it was quicker, cheaper and that the central unit did not always stock what was required.

Given this situation it would seem that the present purchasing guidelines fail to provide a totally co-ordinated purchasing and central stocking function. Reprographic staff at the various establishments do not appreciate the emphasis in the introduction to the manual which is placed on the cheapest small purchase not necessarily being the most prudent.

The present disregard paid to the purchasing manual will almost certainly result in the organisation holding too much printing related stocks. Indeed, individual establishments acknowledged that high stocks are held.

Non-compliance with the Finance Committee's terms of reference in regard to the establishment of duplicating activities outside the central unit has already been reported to the authority as has the absence of specific approval for the conduct of printing and stationery work by Topshop.

In addition to the authority's policy recorded above, the sites visited during our study were asked what they perceived policy to be. Generally, each site's aim was to increase their in-house ability in order that they could supply more of the site's reprographic needs.

Our examination of the authority's policies did not reveal any formal policy in regard to quality standards. Thus, for example, different quality paper was being used at the various sites for work which was, in the main, similar. Also, except in the case of Topshop, there was no formal policy detailing the type of work which should be carried out at the various sites. As stated earlier, sites offering printing facilities try, as far as possible, to satisfy all in-house demand. Instances were observed where this unofficial policy had led to sites producing stationery from good originals which had in the first place been produced by the central unit from a metal plate. Metal plate masters are relatively expensive and the above situation, if allowed to continue, will not ensure that the organisation as a whole receives full benefit from the central unit's expertise and equipment.

Recommendations: we recommend:

- that steps be taken to ensure that the organisation's Standing Orders currently in issue are followed and that staff involved in reprographics throughout the authority are made aware of the importance of conforming with central policy;
- a policy be developed with regard to the quality and performance standards used by the various sites offering reprographic facilities; and
- that a detailed study of the work undertaken at each site be carried to which would result in the establishment of a formal policy governing the type of work each site should undertake.

3. Organisation and Management

3.1 Organisation Structure

Central printing and stationery services are provided by a self-contained unit which relies on the authority for provision of various services organised on an authority-wide basis. The unit has an internal administration function which controls and monitors its function.

The production facility of the central unit can be analysed over the various operations performed. These operations, together with the relevant staff levels, are recorded in Table 1, together with equivalent information from the other sites visited during the course of the study.

Table #1: Staff Employed by Site and Operation

Operation	Central Unit	Polytechnic	Technical College	Teachers Centre	School	Topshop
Administration	7					
Duplicating	6	}	}	}	}	}
Printing	6	} 8	} 2	} 3	} 1	} 27
		}	}	}	}	}
Addressograph	1					
Bookbinding	5					
Design	3					
Guillotine	1					
Stores etc.	6					
TOTAL	**35**	**8**	**2**	**3**	**2**	**27**

Notes:

1. The City Secretary's contract is deemed to attract no full time employment costs.
2. The Design operation of the central unit is in the main concerned with type-setting.
3. Visual aid graphic design and technical drawing staff are not shown,
4. Administration and stores staff carry out duties for both the printing and stationery departments.

At the Central Unit, the Printing and Stationery Manager is supported by the Printing Manager and the Office Manager. The Printing Manager is responsible for purchasing printing consumables and is in constant close contact with the operating supervisors. At sites outside the central unit, the duplicating is in the main run by supervisors. Any office or administrative support that these supervisors require is

usually provided by staff who also have responsibilities outside the duplicating and printing areas. Job descriptions for all staff members should be available from the Treasurer's Personnel Officer, although those we examined appeared in need of updating.

Recommendations: we recommend:

- that job descriptions be prepared and/or updated for all staff involved in duplicating and printing.

3.2 Capacity and Production Planning

3.2.1 Central Convenience Copying

The provision of a convenience copying facility is the responsibility of the Chief Executive. At the time of the signing of the present contract it was envisaged that there would be some 175,000 A4 impressions per month; some 7,000 per machine over the 25 units provided.

Records kept of the usage show a reasonably linear growth pattern from the anticipated start level. Based on the first nine months of the current year, it is not unreasonable to expect the average monthly volume will reach 295,000 impressions; an average of 11,800 per machine. This vast growth in usage has submitted the present machines to unanticipated pressure with the result that the quality of impression obtained has deteriorated.

Use of the machines is monitored by a control sheet which should be completed by staff every time they use the copier. We have tested the number of impressions recorded against those actually metered and found that 36% of metered impressions were not accounted for. This statistic may be an indicator of unauthorised use,

If the statistic is applicable to all central contract copiers then provision of a convenience facility may be more expensive in real terms than the contract charge per impression. Under the present contract, each copy taken costs 0.92p, excluding paper and any overhead costs. Based on the average monthly number of copies for the current year the annual contract cost will be around £32,000. If 36% of the copies taken are unauthorised the total cost to the organisation rises from 0.92p to 1.44p per copy. It is doubtful whether the whole 36% represents unauthorised copies but the gap between admitted and metered copies requires further investigation.

Given that the linear progression in convenience copies continues and that the current contract can be terminated by either side giving six months-notice, the time is opportune to reconsider exactly how a convenience facility should be organised. Furthermore, the current 8 copy limit placed on any one original reproduced on a convenience copier was set some time ago and may no longer be a reasonable breakeven point before work has to be sent to the central unit.

Recommendations: we recommend:

- that alternative methods of providing a convenience facility be examined;
- that the method of controlling this copying facility be reviewed so that unauthorised use can be minimised; and
- that an exercise be carried out to establish the breakeven point after which work has to be referred to the central unit.

3.2.2 Central Unit Duplicating

The central unit's production capacity is divided between duplicating and printing jobs. Jobs which are black ink on white paper and require 500 or less copies are handled by the duplicating section. jobs handled by printing include those requiring more than 500 copies and those which, although less than 500 copies, are repetitive and therefore produced from metal plate masters.

The duplicating section of the central unit operates a Rank Xerox 9400 and three ASC offset printers which use paper plate masters. Our enquiries outside the authority indicates that the Xerox is capable of producing 200,000 copies per month and that the ASC's are capable of producing between 200,000 and 400,000 copies, depending on the run and size type.

Statistics on the number of impressions made on the Xerox and on the ASCs provided by the central unit show a decreasing usage trend, until the last financial year (see Table 2 below):

Table #2: Central Duplicating's Volume History

Year	Total Impressions	Xerox Copies	ASC Copies
20xx-4	7.446m	N/a	N/a
20xx-3	6.276m	3.534m	2,742m
20xx-2	5.889m	3.729m	2.160m
29xx-1	5.411m	3.343m	2.068m
20xx	7.077m	4.245m	2.832m

Based on the above figures, the Xerox copier is, in fact, achieving a throughput on average of more than 300,000 copies per month.

The ASCs produced on average 2,451m copies per year. These machines are capable of running at 10,000 copies per hour. However, the central unit run their machines at 8,000 copies per hour. Our external enquiries suggest that a machine speed of 8,000 copies is, in fact, the norm. Based on this machine speed, the three machines running for 35 hours per week and 46 weeks per year should produce around 38 million copies. Based on the same assumptions, it would seem that the machines actually produce around 585 copies per hour.

The assumptions upon which the 38 million copies figure is based may not make sufficient allowance for the type of work undertaken by the central unit. Thus, the central unit management were asked to estimate a production level which they believed to be both reasonable and achievable. They estimated that each machine should produce 1,700 copies per hour for 37 hours per week. Based on this, and 46

working weeks per year, the achievable production would be around 8.5 million copies per annum. Since the average number of copies produced in the last four years averages out to 2.832 million copies it would seem that there is spare machine capacity.

Based on the same figures, it would seem that present demand could be handled by one machine, rather than three. However, the workload is uneven and the central unit requires to machines to meet peak loads.

Assuming that two of the six duplicating staff could be saved and the maintenance agreement on one machine cancelled, savings in the present duplicating section would amount to approximately £40,000 per annum.

However, there needs to be more detailed investigations. Such investigations as we were able to do led us to the conclusion that the average cost per copy from the Xerox copier is around 0.97p as opposed to 1.45p if produced on the litho printing machines. If the capacity on the litho machines could be filled in line with management's expectations, then the cost per copy would fall dramatically to between 0.64p and 0.70p per copy.

Recommendations: we recommend:

- that a thorough investigation of the available and required duplicating capacity be undertaken. Such an investigation should conclude whether available capacity should be filled or reduced and should identify the best mix of duplicating machinery necessary to satisfy demand.

3.2.3 Central Unit Printing

The central unit's printing section operates six AM and one Ryobi printing machines. Over the last four years impressions have averaged 15.773 million copies; output being fairly constant.

Our enquiries indicate that the five AM 1250 machines should produce 200,000 - 400,000 copies per month and the one AM 1850, 100,000 - 200,000. There are currently six operatives (one for each AM machine). One could expect a total annual production of between 1,100,000 and 2,200,000 copies. The actual average is within this range (1,250,000) and, thus, it seems that current printing demand is in line with the capability of the present staff but that machine capacity may be more than required.

The Ryobi machine is frequently idle. It produces very sophisticated work which is not in constant demand and can only be operated by the supervisor. The Polytechnic also has an under-utilised Ryobi machine. Thus, it may be possible to combine the demand for Ryobi products on one site with a resultant cost saving.

Recommendations: we recommend:

- that a detailed investigation be undertaken into the types of printing required with a view to establishing the necessity of the present machinery mix.

Table #3: Comparison of Site Resources and Impression Rates

	Central Unit			Central Contract		Polytechnic			Teacher's Centre		School		Technical College		Topshop	
	Print	Duplicate		Duplicate		Print	Duplicate		Duplicate		Duplicate		Duplicate		Duplicate	
		Pt	Phot	Print	Photo		Pt	Photo	Print	Photo	Print	Photo	Print	Photo	Print	Photo
Number of Machines	7	3	1	-	25	2	2	2	2	1	1	1	2	1	3	4
Number of Direct Staff	6	5	1	-	-	←--	-8-	-----→	2	1	1	-	2	-	←-------	27------→
Number of Impressions per month	1258k	236k	354k	-	295k	←-- 425	--→ k	283k	69k	n/a	52k	n/a	280k	24k	n/a	136k
Impressions per Machine	180k	79k	354k	-	12k	←-- 106	--→ k	142k	35k	-	52k	-	140k	24k	-	34k
Impressions per Staff	210k	47k	354	-	-	-	-	-	35k	-	52k	-	140k	-	-	-


k

3.2.4 Other Sites Visited

A detailed schedule of the main duplicating and printing equipment held at each site is shown as Table #5 in Section 7. Details shown in the table can be summarised and compared with staff and impression numbers for both the central unit and each of the sites visited as shown in Table #3.

Because of the wide range of equipment used by reprographic departments, a simple comparison of the impression rates shown in Table #3 is not valid. For example, whether or not the impression rate per machine on photocopying is reasonable depends to a very large degree on the machine being used. Thus, an impression rate of 24,000 copies a month would not justify the use of a large Rank Xerox machine but would justify a smaller model. Even allowing for the above observation, it does seem as if there is spare capacity on most sites. The best rates seem to be being achieved by the Technical College. The College uses two ASC machines similar to those used by the central unit and produced 3.364 million copies. Based on the central unit management estimates, the college required two machines, but the support machine is under-utilised.

Our examination of the available machine capacity outside the central unit in both printing and duplicating shows that there is a need to examine in detail the necessity of providing the presently available facility.

Recommendations: we recommend that:

- the necessity of providing the present excess machine capacity is investigated;
- before any re-equipment decisions are made the available machine capacity is examined and compared to anticipated demand. If there is reasonable expectation that demand will be more than the residual machine capacity available following the disposal of a machine, then new equipment may be necessary;
- the need for the present number and models of photocopying machines be examined. regard should be had to the most economical efficient and effective machine necessary to provide the required service at each site; and
- the possibility of combining facilities presently available should be considered.

3.2.5 Production Planning

Our review of the production planning procedures in use at the organisation revealed various systems. In the main, sites outside the central unit did not have any formal systems. Demand through these sites was small and could be controlled by the supervisor who has an intimate knowledge of which jobs are in progress and which jobs are urgent. Delivery dates for jobs put through these sections were quoted by the supervisors based on their experience of how long the job would take, the deadline for supplying the job and the current workload of the section.

The sites visited have optimum break-even points governing the use of either litho-printers or photocopiers. For example, the Polytechnic allowed a Xerox 9200 III to be used for up to 20 copies, a Xerox 9500 up to 100 copies, ASC printing machine up to 500 copies and HS printing machine over 500 copies.

Production planning at the central unit is not very sophisticated. Orders are received and allocated between duplicating and printing as described earlier in section 3.2.2. If a job requires printing an order card is prepared and, if available, the metal sheet master is found. The order and master are then filed in either an urgent or non-urgent outstanding work file. There is no detailed loading plan for each machine prepared and work is simply completed as it becomes the first on file. There is no procedure for chasing orders through the production cycle and no reports on progress. Non urgent work simply becomes urgent when the customer enquiries about progress.

Duplicating work at the central unit is scheduled onto the machines by the supervisor. Multi-part short run work is loaded onto the Xerox machines whereas longer run work is done on the litho-printers. Like printing, the total duplicating workload is split into urgent and non-urgent jobs. On peak days only urgent work can be completed by the section so that non-urgent jobs are gradually completed on off-peak days. As for printing, no progress reports are produced by the section.

Recommendations: we recommend:

- that breakeven points for work scheduling purposes be fully investigated and properly established after taking into account all the costs involved in the various methods of producing copies; and
- although it may not be necessary to introduce formal production planning and control systems at the small sites offering reprographic facilities, we recommend that such systems be established at the central unit. Planned machine loading and the ability to chase jobs through the production cycle should improve efficiency which in turn will allow the unit to increase machine throughput and improve the effectiveness of the service to users.

3.3 Management Information

As indicated above, our investigation revealed very little management information being either produced or used. The necessary level of information does, of course, depend on the size of the unit under consideration.

Many examples were found of information being collected but not used. For example, although most sites maintained some information on impression numbers these were not formally reported, could not readily be identified to different classes of machine and were not related to labour statistics to provide some measure of productivity. Furthermore, although some sites did record waste on a per job basis no report comparing actual to budget waste levels was produced.

Information varies between sites. Topshop report job progress; the central unit does not. The central unit records productive hour s achieved, for cost recovery purposes, no other site does.

Financial control information is available to all sites but to varying degrees of detail. The central unit is the only site where all the costs of providing a reprographic facility are recognised. As other sites only direct consumables and labour are recognised. The shortcomings of the present financial control systems in regard to the central unit have been recognised by the authority and accounting staff made responsible for ensuring control is improved.

Our observations above do not cover all the areas in which an improvement in the management information systems is required but are sufficient to identify the current standards being achieved. Without the support of a good information system it is impossible to provide economic, efficient and effective services. The necessity for some of our recommendations made throughout this report would have been identified earlier with good management information.

Recommendations: we recommend:

- that the management information systems currently in use be enhanced to provide the details necessary to run economically, efficiently and effectively the organisation's reprographic function. Information produced should be capable of reporting financial and production related details and of highlighting movements in key statistics.

4. Demand and Service Provided

4.1 Demand

The reprographic facility established by the authority is, in the main, used to satisfy the authority's own printing and duplicating requirements. However, work is also undertaken for outside organisations.

A detailed analysis of the customers supplied by each site is not readily available. However, customers can be broadly categorised as follows:

Table #4: Customer Categorisation

Central Unit	**Printing:** offers services to any department within the organisation. If products cannot be made by the unit use is made of outside printers. Thus, the product range is unlimited but includes standard forms, coloured posters, etc. In addition, the unit also does work for organisations which have historical links with the organisation.
	Duplicating: offers services to any department within the organisation. Demand is analysed to users for re-charge purposes; this shows the major users are Education; Personnel and Administration; Finance and Social Services Departments. Notwithstanding the higher quality demand and higher technical

	standards of the printing section, duplicating products which include Organisation minutes are broadly similar to many of the printing section products.
Chief Executive's Central Contract	Departments situated close to convenience copy machines.
Polytechnic	Internal academic and administrative needs covering course notes, manuals, committee papers, internal forms, etc.
Technical College	As for the Polytechnic.
Teacher Centre	Internal requirement for books and circulars detailing forthcoming events. Occasionally does work for schools.
School	Internal administrative and academic needs. Community organisations' handouts, minutes, etc.
Topshop	All internal requirements plus work for Education, Social services and the Probation Service. In addition will handle commercial work no considered attractive to outside printers where work offers a training opportunity. Also offers photocopy facilities.

There is much concern at the central unit that work which they would normally handle is increasingly dealt with by other units within the authority. However, the Education Department inform us that past experience leads them to doubt the capacity of the central unit to meet their requirements. As a result, the Department has established its own facility to satisfy their need for fast turn round printing and copying work. Moreover, the Education Department describe their reprographic facilities at sites like the Teacher Centre as an attempt to develop more than merely printing and copying shops. The other major functions of these sites include:

- The duplication of material for external consumption;
- An in-service provision for teachers and, thus, children;
- A curriculum development programme in their own right;
- A training programme; and
- A direct, rapid service at the point of demand.

The volume of work undertaken by different sites analysed between printing, duplicating on photocopiers and duplicating on printing machines is not available on a monthly basis for each unit. Where the data is available wide variations between peaks and troughs in the machine throughput can be seen.

Although much of the work undertaken by all units is on a fast turn-round basis, opportunities exist for planning jobs to give a more even flow of work. For example, at education institutions where handouts are given at the end of one term for the beginning of the next the work can be spread evenly over the vacation periods. Such even flow could result in more excess capacity of staff and machines.

As already stated in section 2, the organisation has no policy guidelines established in relation to quality standards. In defence of this situation, it may be argued that departments such as printing and duplication which offer a service and charge their customers should rely on those customers for quality control.

Recommendations: we recommend:

- most have already been covered in Section 2; and
- that the types, volumes and required time cycles of present demand be thoroughly investigated with a view to introducing long term production planning techniques and systems which may smooth the present peaks and troughs. The possibility of combining units offering reprographic facilities may also be identified if the peaks of one unit match the trough of another.

4.2 Service Provided

The products, services and production locations of the reprographic facilities provided by the organisation have been identified earlier in this report. In addition, it has been noted that few records are kept which would provide evidence as to delivery achievements. At the time of our study, units were achieving the fast turn-round expected and there were no backlogs of material requiring printing or duplicating except at the central unit. This had material more than five months old which was, we were told, due to greater work than expected, coupled with staff shortages and an overtime ban.

Since statistics on delivery times were not available, we had to rely on discussions with the customers of the central unit to establish how important problems related to deliveries had become. There were some complaints but nothing which could be quantified in terms of financial loss. There are no records kept of complaints or of rejected work.

Recommendations are covered in section 3.3.

5. Input

The organisation's purchasing procedures are detailed in Standing Orders outlined in section 2 of this report. Thus, the Printing and Stationery Manager should be responsible for all material and equipment purchases. However, as discussed in section 2, Standing Orders are not always complied with. In spite of this non-compliance, the various sites visited stated that they were following the organisation's normal purchasing procedures.

For purchases up to £1,000 quotes are required from two suppliers on their letterhead. For purchases between £1,000 and £3,000 an informal tendering routine is followed whereby proforma price requests are sent out and records kept of any replies. Purchases between £3,000 and £10,000 are controlled by the formal tendering routine. Here the Chief Collector has to be present; over £10,000 the City Secretary has to attend the opening.

Material deliveries are entered on stock cards. our survey showed that a stock recording system existed at each site. Details varied but in all cases re-ordering was done by physical inspection rather than pre-determined re-order levels. Complete physical checks are only carried out once a year; there is no record kept of shortages or excesses resulting from checks during the year. Variance are frequent occurrences at the central unit. The routine is to check the arithmetical accuracy of the stock card and then try to identify jobs which should have been charged but have not been. this frequently identifies the differences. However, some remain and the stock card is adjusted to agree the physical stock.

At most sites stock records were updated at the same time as stocks were issued. however, at the central unit materials used from the printing section's own stocks were booked onto a job card and a stock material list. On receipt of the stock materials list in the general office, the administrative staff update the stock records. As a result, stock records in the central unit are usually one week in arrears. Issues from stationery stocks are recharged to the appropriate user departments as are issues from printing stocks which are not used against a specific job (see section 8.3).

Except at Topshop and at the central unit, there does not appear to be any attempt to control material usage or waste. Both Topshop and the central unit use a job costing system to control some of the work they undertake.

Every job undertaken by Topshop leads to the creation of a job card onto which is recorded an estimate of the materials needed. This estimate of materials forms the basis for any quotes issued to potential customers. If when carrying out the work additional materials are required then they are recorded on the job card as waste. While this system could potentially provide useful statistics for costing purposes waste is only reviewed on a per job basis. Cumulative data is not prepared.

Although the importance of recording waste is recognised at Topshop, statistics are not kept because wastage levels are significantly higher than for commercial organisations. It is felt that high waste levels are symptomatic of training establishments and are, thus, not controllable.

As already indicated, materials used on jobs which the central printing unit undertakes are booked to a job card. The central unit makes allowance for waste when charging materials to a particular job. Thus if 500 copies of one original are required, more than 500 sheets will be booked to that job to allow for spoiled copies. However, if the standard allowance does not cater for all rejected copies, additional materials will be required. This further issue of materials is not charged to the job and stock records not updated for the correct material used. Furthermore, if the standard material is more than enough to cover any rejects, the surplus is not re-entered into stock. The above factors obviously cause some of the stock differences referred to earlier. The adequacy of the standard allowances for rejects does not seem to have been tested for some time.

There are limitations to the work which can be undertaken by each of the sites. If a site, for technical reasons, cannot undertake a job it should be passed to the central unit. This was not done in every case.

Total occupancy costs are only recognised at the central unit. Efforts are made at Topshop to recognise occupancy and overhead costs in quotes for prospective work by using a recovery rate based on a survey of commercial printers charges. We found that at some sites occupancy and overhead costs were totally ignored when charging customers for goods and services. Our recommendations in this area are covered in section 8 of this report.

Recommendations: we recommend that:

- the present stock recording systems be enhanced to increase their accuracy;
- use be made of stock re-order level indicators and that records highlight any stock differences following a physical check;
- the present stocks held at each site within the authority be reviewed;
- a regular stock level reporting system be introduced to guard against excess stocks being built up again; and
- controls over material use and waste be introduced and that presently used standard issues to cover reject copies be reviewed. This will improve the economical provision of reprographic services.

6. Labour

6.1 General

The number of staff employed at each site is detailed in Table 1 in section 3.1.

Staff are mostly paid monthly for a 37 or 37.5-hour working week. Some staff at the central unit and all trainees are paid weekly for a 39-hour working week.

Levels of sickness absence are monitored and annual reports are produced showing the percentage of lost time on an individual and total basis. The report for the previous year shows that monthly paid staff lost an average of 3.5% of possible attendance time and weekly paid staff 10.9%.

In view of the high level of sickness reported for weekly staff, sickness absence reports should be prepared more regularly. we are not aware of similar reports being produced for reprographic staff outside of the central unit.

Recommendations: we recommend that:

- sickness absence records be produced monthly.

6.2 Payroll System

Payroll systems vary for each site. Trainees at Topshop and the school are paid by the Manpower Services Commission. Even so it is the aim of Topshop to recreate as closely as possible an industrial environment. Hence trainees use clock cards which are scrutinised by supervisors and deductions are made from wage payments for absenteeism. Monthly paid staff at each site are not required to maintain detailed timesheets but returns are required of sickness absence and any overtime worked. In addition to the above returns records are kept of annual holiday entitlements and, where applicable, flexitime. All monthly paid staff are paid by cheque or bank transfer.

Weekly paid staff at the central unit are paid on an attendance basis. As a result, they have to keep a detailed time sheet. Two time sheets are kept, both of which are checked by the general office. One of the two time sheets is sent together with sickness absence and any other relevant information to the Treasurer's Department. The other sheet is kept for management information purposes as described below.

Throughout the week as staff have worked on various tasks a record of time spent on each job is kept. This record splits time between productive and non-productive jobs and, as a result, the total productive hours worked in each section within the central unit is available on a weekly basis. Productive hours recorded in this way provide the basis for setting printing cost recoveries. However, the productive hours recorded on the timesheets are not reconciled to those charged to each job which passes through the printing section. Thus, the accuracy of the recovery rate is questionable. Furthermore, although monthly staff do not need to record productive time for timesheet purposes they may in fact do so if their duties are changed for short periods; thus distortions in the total number of productive hours worked may occur.

The central unit is the only site where productive hours are recorded. Records of total productive hours worked are not related to the number of staff employed or to any measurement of throughput. Thus, as a guide to performance or productivity they are of limited use.

In addition to normal wage payments, weekly staff may earn a bonus payment based on the level of productive hours worked over standard. At the time of our visit, the maximum bonus was £50 per week and is regularly and easily earned. The bonus payment is not regarded as an incentive payment but rather a means of attracting the right calibre of staff through enhanced wage payments.

Recommendations: we recommend that:

- the system of recording data at the central unit be simplified;
- the content, regularity and accuracy of presently reported management information be improved;
- the basis on which productive hours are recorded should be clarified and that productive hours recorded on job cards and on time sheets should be reconciled; and
- productivity standards be established for each site in order to provide a basis against which to judge performance.

7. Plant and Equipment

Table #5 indicates the wide variety of major plant and equipment operated by the authority at the various sites.

The table also identifies examples of sophisticated machinery being available and under-utilised at more than one site (e.g. the Ryobi 4800). Overall the picture presented by the table suggests that there has been no uniform approach to the total printing and duplicating plant and equipment requirement of the authority.

The present accounting systems do not identify repair and maintenance costs by machine, as a result re-equipment decisions are based on observations made by operatives and maintenance contractors. Re-equipping decisions appear to have been made in isolation without regard to the available capacities or machine utilisation factors highlighted earlier in this report (see section 3). furthermore, there is presently no necessity to provide a detailed report justifying major capital expenditure on, for example, a discounted cash flow basis. A major consideration in relation to capital expenditure is simply the availability of funds in the capital budget or renewals surplus. However, re-equipment decisions have to be examined as detailed in Standing Orders.

Under the organisation's Standing Orders, each site is required to maintain a plant register. although registers were observed at some sites we found others (e.g. Topshop) where none were kept of, if kept, could not be produced. Information held on the registers was found to be limited with details of, for example, historical cost and date of purchase missing.

Given the above observations, we are of the opinion that controls operated over plant and equipment are inadequate,

Recommendations: we recommend that:

- plant and equipment standards be reviewed and directives issued to ensure that the authority as a whole obtains value-for-money from the provision of its reprographic facility;
- re-equipment decisions currently taking place be postponed pending the outcome of such review;
- re-equipment decisions be based on a review of machine capacities and utilisation and are not simply viewed as replacement decisions;
- capital expenditure limits should be set above which expenditure should be justified on a formal basis, including the preparation of a discounted cash flow calculation; and
- accounting records and plant registers be enhanced to provide information on a machine basis of running costs, breakdown intervals, etc., to aid re-equipment decisions.

Table #5: Schedule of Duplicating and Printing Equipment

	Central Unit	Central Contract	Polytechnic	Teacher's Centre	School	Technical College	Topshop
2650 ASC	1						
1250 ASC	2		2			2	
Nashua 1240		9					
Nashua 1230		11					
Nashua 1215		3					
Nashua 1205		2					
Oce 1900						1	
Oce 1700 (coin)						1	
Xerox 3100							1
Xerox 3450							1
Xerox 3400				1			1
Xerox 2830			1				
Xerox 9200	1						
Xerox 9400			1				1
Xerox 9500							
AB Dick					1		
AM 1250	5						
AM 1850	1						
Ryobi 480D	1		1				
HS 1250			1				
AB Dick Offset 350				1	1		
AB Dick Offset 326				1			
AB Dick Offset 375							1
AB Dick Offset 310							1
Rotaprint R20							1

8. Costs

8.1 Cost Collection

As mentioned earlier in this report, the detail to which the costs of providing a reprographic facility are identified at the individual sites varies. Thus, at the Technical college only printing materials and consumables can be specifically identified against budget. All other costs are controlled in total only. A similar situation exists at the Polytechnic, Teacher's Centre and school. As a result of this, the tendency is not to recognise the true cost of providing a reprographic facility when charging customers.

Our investigation of costs at the central printing unit leads us to believe all costs of providing a central service have been recognised. Thus, telephone costs are charged by extension; rates are those which would be paid to the rating authority; central services are charged out on a reasonable use basis. As a result, the total costs of the central unit can be identified. The allocation of costs between stationery and printing and then between the duplicating, printing and Addressograph cost centres within printing are made in relation to the area occupied, time spent and other relevant bases.

Recommendations: we recommend that:

- the total costs of offering a reprographic facility at the different sites be identified. This will enable detailed comparisons to be made of the cost per impression, one site with another.

8.2 Cost Control

Control over the costs incurred by the printing cost centres is established by a computer produced Budget Control Report (BCR). The report shows actual and budget figures for each main expense heading. Main expense headings can be sub-divided into their constituent parts if more detailed control is required. The BCR can be requested as often as necessary to control the unit effectively,

Budget figures recorded on the BCR are set in November each year at which time a summary report showing the previous year actual, the current estimate, approximate and actual and the next year's estimate are produced. The estimate figures for the next year are set after taking account of known changes (e.g. changes in staff numbers) and after allowing for inflation in line with the authority's issued guidelines. At the same time estimates for the current financial year, set the previous November, can be reviewed and, if necessary, adjusted to provide current year approximate figures. If as a result of reviewing the current year estimates a large increase in the approximate figures is expected, committee approval will be required for the new figures.

The estimates provide for a contribution to a Renewals Fund. This charge is an attempt to ensure that sufficient funds are available to replace any necessary plant and equipment. The charge is calculated in relation to the estimated useful life and replacement cost of the current equipment. The balance on the fund, which currently stands at £581,000, is invested along with the accumulated trading balance of £94,425 for the central unit and interest earned is added to the account.

As stated earlier, the true costs of running the central unit appear to be recognised and reported in the BCR. Thus, comparisons between the central unit and commercial printers are likely to be valid. In a recent exercise conducted by the Printing and Stationery Manager only three jobs out of ten were appreciably cheaper by private printer than by the unit. Based on the results of this survey it would appear that the central unit is providing a competitive service.

Table #6 below compares the central units costs for the past three years.

Table #6: Comparison of Printing and Duplicating Costs per Impression

	20xx-2 (Actual)	20xx-1 (Actual)	20xx (Approx.)
Printing			
Total Costs	193,540	204,698	216,600
Less: Contractors	18,029	5,277	8,100
	£175,511	£199,421	£208,500
Total Impressions	15.5m	14.8m	15.1m
Total Cost per Impression	1.25p	1.38p	1.43p
Costs excluding Contractors per Impression	1.13p	1.135p	1.39p
Duplicating			
Total Costs	£78,140	£72,553	£82,400
Total Impressions	5.889m	5.411m	7.077m
Costs per Impression	1.33p	1.34p	1.16p

Printing costs per impression are shown both inclusive and exclusive of payments to contractors. The inclusive costs comparison figures show that the cost per impression has risen from 1.25p to 1.43p. Payments to contractors are made for work brought in which is usually beyond the technical capacity of the central unit. Therefore, departments asking for this work should recognise that they are asking for more specialist work and should bear the cost. Furthermore, the level of bought in work is very volatile and depends on the user department's requirements. As a result, although the total cost per impression has only risen 14% (the increase in RPI being 33%) we feel that a better guide to the cost control performance of the central unit is given by the figures excluding payments to contractors.

Table #6 shows that, on this basis, the cost per impression has risen from 1.13p to 1.38p over the last two years (22%). However, the increase between the last two years is only 2% which reflects the increased volume of work and efforts to improve cost controls.

The cost per impression for the duplicating section remained constant at around 1.34p per copy before falling this year. This is due in the main to the volume of work plus efforts at cost control.

Given the above information, it would seem that despite the lack of management cost information, cost increases have been reasonably controlled.

Recommendations: we recommend that:

- BCR be made available on a monthly basis, rather than quarterly, and that managers responsible for reprographics receive a copy which they use to control costs.

8.3 Cost Recovery

Given our observations in section 8.1 about the level of detailed cost collection at the various sites it is not too surprising that costs are recovered on different bases. Thus, the Technical College uses material cost plus an addition where the copier is leased. The school charges are based on material recovery plus overheads (although what overheads are included is not clear). The Teacher's Centre costs are based on material costs plus on-cost to cover all overheads and labour (whether or not this actually happens is not tested). Topshop charges material costs plus overhead (the overhead here being in line with outside operators).

Cost recovery of the duplicating and addressograph cost centres is relatively simple in that total costs are charged to user departments in proportion to the work done. It is very easy to operate but some small users may be so insignificant that they do not pick up a charge.

Cost recovery in the printing cost centre is based on material cost plus a productive hour recovery rate. The productive hours used to establish the recovery rate are obtained from a management information report produced as described in section 6.2. total budgeted costs less materials and payments to contractors divided by the expected productive hours gives the recovery rate.

In setting the printing work recovery rate accounting staff are not sure whether the printing cost centre should breakeven or operate at a profit. Materials are excluded from the rate because they are specifically charged to the job. However, present practice over waste controls may result to an under recovery of material costs. At the time of our visit the recovery rate was £9.25 per hour.

The different bases on which charges are made for reprographic services by the different sites and the different costs each site deems it necessary to recover show how important it is to be sure that all costs are included before inter-site copying charges are compared. Given that a site may charge for a copy on one of the bases outlined above they may well appear much cheaper than the central unit. however, examination of the costs being recovered show that the comparisons are invalid.

Recommendations: we recommend that:

- properly constructed price lists be established at each site; and
- a detailed review of the present cost recovery bases used at the central unit be undertaken.

9. Conclusions and Summary of Findings

9.1 Conclusions

This value-for-money study highlights areas for possible improvement and re-organisation of the authority's present reprographic facility. the facility provided is capable of ensuring that printing and duplicating work is eventually completed; thus, the service is effective in catering for the authority's needs, but the imbalance between volume, machine capacities and manpower indicates that economy and efficiency objectives are not met.

Decisions on which structure the authority should adopt are a matter for management to determine but should follow the detailed study which Manpower Services section intends to carry out. The Manpower Services section should incorporate into their investigation an evaluation of the opportunities for change suggested in this report.

The wide range and number of opportunities identified means that the eventual investigation will, of necessity, need to be detailed and time consuming. As a result, before the investigation is started, we **recommend** that a carefully considered work programme be designed which should ensure that all information is available before any re-organisation decisions are made.

9.2 Summary of Findings

9.2.1 Policies (Section #2)

The organisation's Standing Orders mainly relate to purchasing procedures in regard to printing and duplicating supplies. In addition, the Finance Committee is responsible for making arrangements for standardising the printing and stationery requirements of the organisation. No policies exist setting out quality and performance standards or types of work undertaken at different sites. Furthermore, purchasing procedures are often ignored.

Recommendations: we recommend that:

- Standing Orders be enforced;
- any extension of the current reprographic facilities be authorised by the Finance Committee; and
- policies be established in regard to quality, performance standards and the work to be undertaken at each site.

9.2.2 Organisation and Management (Section #3)

Job descriptions that exist have not been updated for some time.

We carried out a limited test on the number of impressions recorded for convenience copiers compared with metered impressions and found a gap of 36%.

The machine capabilities available seem to be out of balance at most sites with the amount of work. Thus, savings in machines and staff may be possible.

Our review of current workloads suggests that possibilities for combining the facilities offered by different sites may exist.

Production planning procedures operated throughout the authority are not very sophisticated. Guidelines on the maximum number of copies which should be taken off one original exist for different machines. these guidelines may not be valid from either an economical or efficient viewpoint.

Although a large amount of information of different types is collected at the sites very little formal management information is prepared and reported.

Recommendations: we recommend that:

- job descriptions be prepared or updated for all staff;
- alternative methods of providing a convenience copying facility be examined;
- the method of controlling convenience copying be reviewed to minimise unauthorised use;
- that the breakeven points at which work should be passed to a more suitable machine be examined;
- a thorough investigation of unnecessary duplication of central unit machine capacity be undertaken (saving £40,000);
- a decision be taken on whether available central duplicating capacity should be filled or reduced;
- the present machinery at central unit be examined to ensure it is the optimum mix;
- the required machinery capacities at sites outside the central unit be reviewed;
- re-equipment decisions be viewed in the light of anticipated future demand and present available capacity;
- the need for the present number and types of photocopier be examined;
- the possibility of combining reprographic facilities offered by different sites be considered;
- detailed production planning procedures and systems be introduced at the central unit; and
- management information systems be enhanced to provide financial and production related statistics.

9.2.3 Demand and Service Provided Section #4)

Work which the central unit should do is being referred to other sites.

Peaks and troughs in demand may coincide at different units thus allowing them to be combined. Long term production plans may smooth present peaks and troughs. No records of delivery achievements or customer complaints and rejects are kept at most sites.

Although most sites did not have an order backlog situation, the central unit had. The backlog was, in management's opinion, caused by a high influx of orders and staffing problems.

Recommendations: we recommend that:

- the volume and types of demand be thoroughly investigated to enable log term production planning procedures to be introduced which may smooth peaks and troughs in demand.

9.2.4 Input (Section #5)

The authority has guidelines which set out the procedures to be followed when purchasing goods or services.

Stock records are kept at every site but re-order levels, reports on stock levels held, records of differences between book and physical stocks and monitoring of material use and waste do not take place.

Procedures used to record the issue and return of materials lead to the creation of stock differences.

Stock records kept at the central unit are usually one week in arrears.

Recommendations: we recommend that:

- the present stock recording and control systems be enhanced;
- re-order levels be established and used;
- current stocks held be reviewed for excesses;
- regular stock reports be produced; and
- controls over material use and waste be introduced.

9.2.5 Labour (Section #6)

The hours worked by reprographic staff at the various sites differ; moreover flexitime and overtime can only be worked at some sites.

Sickness absence levels are monitored and an annual report is produced. Current sickness absence at the central unit is very high.

At the central unit weekly paid staff keep records of productive hours worked. This information is used for cost recovery purposes. weekly paid staff also receive bonus payments which are not really intended to be incentive based.

Recommendations: we recommend that:

- sickness absence reports be produced monthly;
- present wage and salary record system be simplified;
- the accuracy, regularity and content of present management information b improved;
- the basis of recording productive hours be clarified and that productive hours on job cards and timesheets be reconciled; and
- productivity standards be established.

9.2.6 Plant and Equipment (Section #7)

Sophisticated machinery resources are duplicated and under utilised. the present accounting systems do not collect costs on a per machine basis and thus guidance on re-equipping decisions has to be obtained from operatives and maintenance contractors. Furthermore, re-equipping decisions have been made without detailed project appraisals. Information contained in available plant registers is limited.

Recommendations: we recommend that:

- necessary plant and equipment standards be reviewed;
- re-equipment decisions be postponed until a conclusion on how the reprographic facility should be provided is reached;
- re-equipment decisions should be related to machine capacities and major decisions be justified on the basis of detailed appraisals; and
- accounting records and plant registers be enhanced.

9.2.7 Costs (Section #8)

The only site at which all costs of providing a reprographic facility are recognised in the central unit. Thus, care should be taken in comparing copying charges per impression from different sites.

Cost control is established by a Budget Control Report.

Cost recovery at sites outside of the central unit cannot be shown to recover all costs incurred. At the central unit, duplicating and addressograph costs are recovered in proportion to the work done for the different user departments and printing work is recovered by charging material costs plus overhead to each job. Overheads are charged on a productive hour basis. Present practices in regard to material control and waste men that material costs will be under-recovered.

Cost comparisons with outside printers obtained by the central unit management show work done by the unit is competitive. the impact of rising costs over the last three years has been minimised.

Recommendations: we recommend that:

- the total costs of offering reprographic services at the different sites be recognised;
- the BCR be made available on a monthly basis;
- price lists be properly constructed for each site; and
- a detailed review of the present cost recovery bases be undertaken.

Case Study #3: Pro Forma Report for a Performance Audit

Performance Audit Report of the SAI

-

Ministry of Health and Social Protection

Purchase, Storage, Issue and Use of Pharmaceuticals

Table of Contents

[Omitted from Individual Case Study]

Acronyms

Acronym	Detail
ADB	Asian Development Bank
AFS	Annual Financial Statements
AIDS	Acquired Immuno-Deficiency Syndrome
ATC	Anatomical Therapeutic Chemical
BBP	Basic Benefit Package
CIS	Commonwealth of Independent States
CMS	Central Medical Stores
COTS	Commercial Off-The-Shelf
DHS	Demographic Health Survey
EML	Essential Medicines List
EU	European Union
FEFO	First Expiry-Date First Out
FIFO	First In First Out
FM	Family Medicine
GCP	Good Clinical Practice
GDP	Gross Domestic Product
GLP	Good Laboratory Practice
GMP	Good Manufacturing Practice
HCI	Human Capital Index
HDSP I	EU Health Development Project I (Sector Budget Support)
HDSP II	EU Health Development Project II (TA and Sector Budget Support)
HiT	WHO Health Systems in Transition
HIV	Human Immuno-deficiency Virus
INTOSAI	International Organisation of Supreme Audit Institutions
ISSAI	International Standards for Supreme Audit Institutions
MCH	Mother and Child Health
MoF	Ministry of Finance
MoHSP	Ministry of Health and Social Protection
MSH	Management Sciences for Health
NCD	Non-Communicable Diseases
NCHS	National Center for Health Statistics
NDS	National Development Strategy 2016-30
NFS	Nutrition and Food Safety
NHS	National Health Strategy 2010-20
O$	Oceania Dollar

OECD	Organisation for Economic Co-operation and Development
OPP	Out-Of-Pocket Payments
PFM	Public Finance Management
PHC	Primary Health Care
PPP	Purchasing Power Parity
PTC	Pharmacy and Therapeutics Committee
SDG	Sustainable Development Goal
TA	Technical Assistance
UNICEF	United Nations Children's Fund
UNPF	United Nations Population Fund
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
USD	United States Dollar
VAT	Value Added Tax
VEN	Vital, Essential and Non-essential
WB	World Bank
WHO	World Health Organisation

[NB This is not a complete Performance Audit Report but is intended as providing guidance as to the format which SAI should follow when reporting a Performance Audit. To aid in this process, some of the sections have examples of the sort of text which should be developed but in other areas there is guidance on the audit steps to be taken.]

Executive Summary

[The executive summary should reflect accurately and comprehensively what is in the report and guide the reader to the significance of the audit questions and the answers thereto. It summarizes the background, major findings, conclusions and recommendations. It is a short summary designed for those who have little time to read the full report.]

1. Introduction

[The introduction to the report sets out the context of the audit, helping the reader to understand both the audit and the observations. It comprises a description of the audit area or subject. The introduction should not be overly long and detailed. Typically, it contains a statement but not audit observations. If further detail is considered as useful for the reader, it will be provided in an annexe, and indications can be given of how the reader could obtain further information (e.g. references).]

1.1 Legal Basis

This audit was undertaken in accordance with the Law of the Republic of Oceania on the Supreme Audit Institution (2017) (the Law).

Article #2 of the Law defines performance audit:

> *"study and analysis of the activities of the audit object for economy, efficiency and effectiveness".*

Article #34 of the Law details the performance audit work:

> *"the objective of performance audit are a qualitative improvement in the management of public resources by providing complete, reliable and objective information about the activities of organizations involved in the budget process".*

1.2 International Standards

Performance Auditing is governed by the International Standards for Supreme Audit Institutions (ISSAI)[1]. The relevant standards are ISSAI #3000 to ISSAI #3200:

- ISSAI #300 to #399: Performance Audit Principles;
- ISSAI #3000 to #3899: Performance Audit Standards; and
- GUID #3900 to #3999: Performance Audit Guidelines.

1.3 Economy, Efficiency, Effectiveness and Equity

Performance Audit always used to be referred to as the study of three "E"s. However, recently a fourth "E" has been added. The four "E"s are:

- **Economy: is "Keeping the Costs Low":** Economy means minimizing costs of resources used in performing an activity. The resources used should be available in due time, in and of **appropriate quantity and quality** and at the best price.

[1] http://www.issai.org/

Examining economy may include **verification of management practices, management systems, benchmarking of procurement processes** and other procedures pertaining to the performance audit, while the strict examination of the **legality of bidding procedures, genuineness of documents, efficiency of internal controls** and other aspects should be the object of a compliance audit. Actually, there may be some overlap between compliance audit and performance audit. In this case we will also look at some compliance audit aspects;

- **Efficiency: is "Making the Most of Available Resources":** Efficiency is the relationship between products (goods and services) generated by an activity and the costs of inputs used to produce them in a certain period of time, maintaining the quality standards. The principle of efficiency is about getting the most from available resources.

  It is concerned with the relationship between resources employed and outputs delivered in terms of quantity, quality and timing. It can be examined from two perspectives: **minimizing the total cost** or the means required to obtain the same quantity and quality of the output, or **optimising the combination of inputs to maximize the output** when the total expense is determined in advance.

  Efficiency can be measured by calculating and **comparing the unit cost of producing a good or a service**. The main question is whether these resources have been put to optimal or satisfactory use or whether the same or similar results in terms of quality and turn-around time could have been achieved with fewer resources. Therefore, efficiency is about maximum output obtained for a given level of input, or the minimum level of input required for a given level of output – spending well.

- **Effectiveness: is "Achieving the Stipulated Aims and Objectives":** The principle of effectiveness concerns meeting the objectives set and achieving the intended results. It is essentially a goal-attainment concept. It refers to the relationship between the outcomes of an intervention or program in terms of its effects on the target population (observed impacts), and the desired goals (expected impacts). It means verifying if the changes in the target population could be attributed to the actions of the evaluated programme.

  Effectiveness comprises two distinct aspects: the attainment of specific objectives in terms of outputs and the achievement of intended results in terms of outcomes.

  For this audit ambitious audit objective will be used; **assessing to what extent objectives have been achieved, target groups have been reached, or the level of performance**.

- **Equity:** this new "E" is of particular relevance to this study in an area where equity would indicate that every citizen has an equal right to the appropriate medicine for their needs. To provide genuine equality of opportunity society must cater more to those born with fewer skills and those born in socially disadvantaged areas.

1.4 Background to the Health Sector in Oceania

[Provide Background Data from World Health Organisation (WHO) and other consultancy studies.]

1.5 Background to the Audit of Pharmaceutical[2] Identification, Purchase, Storage, Issue and Usage

A performance audit of the whole health sector would be a very valuable exercise.

However, at this stage of development of the performance audit skills within the SAI, the audit will be limited to aspects related to Pharmaceutical identification, purchase, storage, issue and usage. Reviews of different elements of the health sector by various aid donors in recent years have identified this area of one where there are problems.

Although, in addition, we will "flag" areas which would repay further in-depth study by either the SAI at some future date or by the Ministry of Health and Social Protection.

Normally, any performance audit is subject to a **pre-study** to determine whether or not it is worth undertaking a full study. However, to maximise the time available to work with the SAI's audit team, use was made of the expertise of the Health Finance Expert to identify this as a viable topic to study in the Health Sector.

[2] The term "Pharmaceutical" is used generically to cover any prescribed medicine.

2. Audit Objectives

[A description of the audit objective(s) and the audit questions should be included in the report, in a logical and interrelated way. Report users need this information to understand the purpose of audit, the nature and extent of the audit work performed and any significant limitations in audit objectives, scope and methodology.]

The **overall audit objective** was to study the identification, purchase, storage and issue of Pharmaceuticals within the public health sector with a view to ensuring that these processes are as cost-effective as possible.

The specific audit objectives and questions to be asked are outlined in the following table:

Table #1: Specific Audit Objective and Questions

Specific Audit Objective	Associated Question(s)
To ascertain whether the Government's health policies are implemented in the most cost-effective way possible. **[Effectiveness]**	1. Is there a Comprehensive Strategy with regards the Development of Health Care within Oceania? 2. What are the processes and policies with regards approval of New Products and Purchasing?
To compare expenditure on both health and Pharmaceuticals in Oceanian with other relevant jurisdictions. **[Equity]**	3. How does the total health expenditure in Oceania – in total and on Pharmaceuticals - compare with other countries and over time?
To compare expenditure regionally within Oceania. **[Equity]**	4. Is there equity of spending within regions of the country?
To ensure that there is a soundly based Procurement Plan. **[Economy and Efficiency]**	5. Is the Procurement Plan fully comprehensive?
To ensure that the Annual Budget for Pharmaceuticals is soundly based. **[Economy and Efficiency]**	6. How is the annual budget for Pharmaceuticals created and how accurate is it?
To ensure that the procurement process is soundly based and in line with government procurement policies. **[Economy and Efficiency]**	7. How are orders for Pharmaceuticals placed? 8. Are the Pharmaceuticals obtained for the best possible price?

To ensure that Pharmaceuticals that are delivered are in accordance with the orders placed. **[Economy and Efficiency]**	9. What is the system for recording delivery of Pharmaceutical orders?
To ensure that the Pharmaceuticals which are delivered are stored securely and, in a manner, to avoid deterioration. **[Economy and Efficiency]**	10. What is the system for recording the Pharmaceuticals held in stores? 11. Are the storage facilities suitable for the safe long-term storage of all classes of Pharmaceuticals?
To ensure that Pharmaceuticals are only issued in accordance with a sound system. **[Economy and Efficiency]**	12. What is the system for the issue of Pharmaceuticals from the store to the user (pharmacy, dispensary, etc.)? 13. Have Pharmaceuticals been charged out at the correct rate? 14. What is the system for delivering the drugs from the store to the user?
To ensure that there is a sound system of recording Pharmaceutical usage and that data from this system is feedback into the budgeting process. **[Economy and Efficiency]**	15. What is the system of recording Pharmaceutical usage?

The audit methodology outlined below was used to answer the questions and ensure that the audit objectives have been fully achieved.

3. Audit Scope and Approach and Audit Time Period Covered

[The audit scope and approach is key to the reader understanding what to expect from the report, and thereby what use can be made of the results and conclusions and the degree of reliance to be placed thereon. Different readers have different needs and expectations from the audit. The approach refers to the problem, result or system-oriented approach or a combination there of. Time period is related to the scope that defines which period is covered under the audit.]

3.1 Audit Time Period

Unlike financial audits there is no specific time period to be covered by a Performance Audit.

In the case of this audit we have identified the most up to data possible when auditing the current situation.

When auditing time series, we have used the best available and relevant data.

The dates from which the data stems are clearly indicated in each section of the work.

3.2 Audit Scope

We have attempted to examine all aspects of the government expenditure on Pharmaceuticals to ensure a fully rounded performance audit study.

This included:

- **Government Policies:** ascertaining the key government policies and the extent to which they were being achieved;
- **Approval of Pharmaceuticals:** ascertaining the system by which Pharmaceuticals are approved for use in Oceania and whether this is in accordance with best international practice for the benefit of the citizens;
- **Procurement of Pharmaceuticals:** ensuring that all Pharmaceuticals are purchased in accordance with government procurement policy and in accordance with a purchasing plan which is “fit for purpose”;
- **Budgeting for Pharmaceuticals:** ensuring that the annual budget for Pharmaceuticals is based on a sound estimation of Pharmaceuticals requirements and expected costs;
- **Storage:** ensuring that all Pharmaceuticals purchased are stored securely and in accordance with the manufacturer’s instructions;

- **Issuing of Pharmaceuticals:** ensuring that here is a sound system for Pharmaceuticals issue and that they are issued only in accordance with need and in accordance with an effective issuing system;
- **Distribution of Pharmaceuticals:** ensuring they there is a sound system in place to record Pharmaceutical distribution and that the physical system protects the Pharmaceuticals in transit; and
- **Usage of Pharmaceuticals:** ensuring that there is a detailed record of when and where Pharmaceuticals are used and that this feed back into the procurement and financial planning systems.

3.3 Audit Approach – Systems Oriented

The approach to this audit was similar to that for any systems-oriented audit.

Thus, we established whether or not there was a formal **system** in place.

If there was such a system, it was **tested** to see whether or not it was in accordance with good international practice and whether or not it was being followed. Based on the audit results, recommendations were made, as necessary, for **amending or replacing the system**.

In order to do this, it was necessary for us to **record the system** and then undertake **compliance and substantive testing** to see if the system as recorded is how it actually operates.

Our audit approach ensures that we only examined **material matters** – we did not waste time auditing trivial matters – and that we gathered sufficient good quality evidence on which to base our findings.

The **findings and recommendations** were discussed with the client and any relevant comments have been incorporated into the report.

4. Audit Methodology of Data Gathering and Data Analysis Applied

[A description of the audit methodology used for addressing audit objective(s) should be included in the report. The methodology can be described briefly, however, readers from the audit and academic community usually welcome more detail, in particular concerning the scope and methodology employed. Therefore, in concise form audit methodology and approach, sources of data, and any limitation to the data used, data gathering and analysis methods use should be mentioned. Detailed information can then be included in appendices, if necessary.]

4.1 Introduction

This section of the report briefly describes the methodology used to gather data in order to be able draw our audit findings. A full description of the methodology, together with all the analytical material, is contained in the associated audit working papers. If any reader of this report wants access to this material, they should apply to the SAI.

The standard indicates that this section should include, in concise form, audit methodology and approach, sources of data, and any limitation to the data used, data gathering and analysis methods

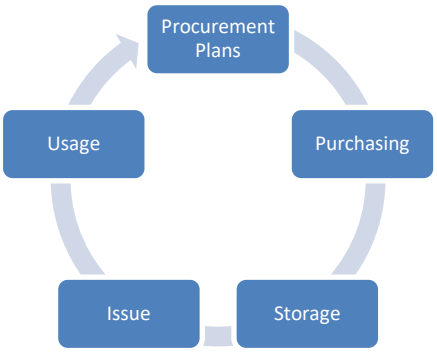
4.2 Overview

The selected audit methodology ensured that there are appropriate policies in place covering:

- **Pharmaceutical Purchasing:** generic versus non-generic Pharmaceuticals;
- **Pharmaceutical Storage:** central and/or regional storage facilities;
- **Pharmaceutical Distribution:** how Pharmaceuticals are moved from stores to medical facilities;
- **Approved Pharmaceutical List:** that there is a list of approved Pharmaceuticals; and
- **New Pharmaceutical Approval:** how new Pharmaceuticals are added to the approved list.

These were tested in detail (see below) and can be shown diagrammatically in the following figure.

Figure #1: Cycle of Pharmaceutical Usage



4.3 Government Policies

This aspect of the report aimed at ascertaining the key government policies and the extent to which they were being achieved as part of the **review of effectiveness.** The **audit methodology** was fairly straight forward: based on document review all policy documents which were identified and obtained.

This includes the equitable usage of resources.

Each document was reviewed and the overall policy aims were extracted for review.

These policy aims and objectives were compared with available statistical data obtained from the sources identified in paragraph 5.2 below.

The results appear as answers to **Questions #1, #3 and #4** below.

4.4 Approval of Pharmaceuticals

This aspect of the report aimed at ascertaining the system by which Pharmaceuticals are approved for use in Oceania and whether this is in accordance with best international practice for the benefit of the citizens.

The government's system for approving and licencing Pharmaceuticals for use in Oceania was obtained. Spot checks were made on the process for recently approved Pharmaceuticals to determine whether or not these followed the laid down system.

The results appear as part of the answer to **Question #2** below.

4.5 Procurement of Pharmaceuticals

This aspect of the report aimed at ensuring that all Pharmaceuticals are purchased in accordance with government procurement policy and in accordance with a purchasing plan that is "fit for purpose".

We obtained the procurement policy appropriate to Pharmaceuticals purchase and undertook the following audit steps:

- examined the procurement policy in light of good international practice; and
- undertook spots checks of purchases to ensure that the system was followed – especially with regards fair and open tendering.

The results appear as the answer to **Question #5** below.

4.6 Budgeting for Pharmaceuticals

This aspect of the report aimed at ensuring that the annual budget for Pharmaceuticals is based on a sound estimation of Pharmaceuticals requirements and expected costs. The Ministry of Health and Social Protection (MoHSP) should have a "procurement plan" which comprises a list of all the Pharmaceuticals to be purchased by government in the years; the

units of each required; and the estimated unit cost of each item. The total amount required under this plan should be the total that appears in the annual budget.

The methodology used here was to request a copy of the procurement plan for the most recent budget cycle. If such a plan did not exist, the audit would provide a pro forma example of such a plan and how it should be prepared.

If the procurement plan was available, the team would undertake a comprehensive audit of the working papers which build into its totals. In particular the audit would cover:

- **Completeness:** does the plan cover ever Pharmaceutical to be purchased?;
- **Volume:** do the volumes used accord with those of previous years adjusted for changes in population or level of service delivery?;
- **Price:** do the level of prices used reflect those of the previous years; is their scope for lowering prices by changing procurement methods:

The results of this part of the audit appear under **Question #6** below.

4.7 Pricing of Pharmaceuticals

This section of the audit aimed at identifying whether actual orders placed could have been obtained for a lower price. This was established, by examining websites and other means, whether the same order could have been affected at a lower price by:

- using a different supplier;
- buying larger quantities;
- making use of generic Pharmaceuticals; and
- having prompt payment discounts in contract.

In each case, different Pharmaceutical orders were examined to determine the level of savings which could have been made on the specific order, where possible, these were used to identify potential annual savings.

The results of this part of the audit appear under **Question #7 and #8** below.

4.8 Medical Stores Management

This section of the audit identified the effectiveness of the Medical Stores Management process. What we would expect to see is a comprehensive, computer-based system covering delivery, storage and issue of medical supplies.

For ease of working we will look at the three areas – delivery, recording and issue - as separate questions with the work covering the relevant sub-system. These are examined in the following paragraphs.

The audit work here was of a more “traditional” nature and involved visiting the medical store and examining the physical security and undertaking spot checks on all the other

aspects referred to above. A formal audit checklist was used for this process which forms part of the working papers of this audit

4.9 Receipt of Pharmaceuticals in Store

This aspect of the audit ensures that there is a sound system of checking and recording the delivered of the ordered pharmaceuticals to the place in which they are to be stored.

This was established by recording and testing the system involved.

The results of this part of the audit appear under **Question #9** below.

4.10 Management of Pharmaceuticals in Store

This part of the audit concerns the management of the pharmaceuticals whilst in the stores.

There should be some form a perpetual inventory or stock record which records the number of items of stock held and their value. This is necessary both for re-ordering purposes (there should be a minimum stock level which triggers re-ordering) and for inclusion in the Annual Financial Statements Balance Sheet at the year-end. There should also be individual "bin cards" that record the number of items in each stock bin.

Medicines may not have a long "shelf life"; it is essential that this is taken into account when ordering pharmaceuticals (to ensure that the amount of time expired material is very limited) and issuing pharmaceuticals (issue those with the least shelf life first). These records must contain details of all deliveries and issues and of any "spot checks" undertaken during the year by stores staff or internal audit.

The results of this part of the audit appear under **Question #10** below.

4.11 Security of Pharmaceuticals in Store

This aspect of the report aimed at ensuring that all Pharmaceuticals purchased are stored securely and in accordance with the manufacturer's instructions.

There are two main security aspects to this element of the audit:

- **Security (Quality):** Pharmaceuticals have to be stored in special ways; all will need to be stored in a dry environment with little light; other will need to be refrigerated at a specific temperature; yet others may need to be kept frozen; and
- **Security (Physical):** Pharmaceuticals are valuable, easily portable items and saleable. The stores where they kept must offer sound security against external theft.

The results of this part of the audit appear under **Question #11** below.

4.12 **Issuing of Pharmaceuticals**

This aspect of the report aimed at ensuring that here is a sound system for Pharmaceuticals issue and that they are issued only in accordance with need and in accordance with an effective issuing system.

This links into the stores systems described above.

There must be a sound system for issuing Pharmaceuticals from the main store to subsidiary stores or direct to hospital pharmacies and dispensaries.

This system should identify the Pharmaceuticals requested and the amount needed. When issued, the stock records should automatically be updated.

The audit process was to:

- to determine the system and examine it for effectiveness; and
- take a selection of issue notes and examine them for completeness and accuracy.

The results of this part of the audit appear under **Question #12** below.

4.13 **Charge Out Rate for Pharmaceuticals**

It is important that when pharmaceuticals are issued from the medical store that they are charged out (issued) at the correct price. There are different ways of calculating this but the rate must cover the initial purchase price plus stores handling charge.

This also forms part of the "Management of Pharmaceuticals in Store" part of the audit.

The audit process was to:

- to determine the system and compare it with good international practice; and
- take a selection of issue notes and examine them to ensure that each item was correctly priced in accordance with that policy.

The results of this part of the audit appear under **Question #13** below.

4.14 **Delivery of Pharmaceuticals to Users**

As with the need for good security when being held in store, it is important that there is a secure delivery system. This must ensure that the same amount of pharmaceuticals as are issued from the store arrive at the end user's location and that they are still in prime condition.

There should be a system for recording the arrival of the Pharmaceuticals to the hospital pharmacy etc. This should act as a sub-store and have suitable records for controlling delivery and issue.

The audit process was to:

- to determine the system and compare it with good international practice;

- take a selection of issue notes and examine them to ensure that each item was correctly delivered in accordance with that policy; and
- to observe the process to ensure that the quality of the pharmaceuticals was maintained.

The results of this part of the audit appear under **Question #14** below.

4.15 **Usage of Pharmaceuticals**

This aspect of the report aimed at ensuring that there is a detailed record of when and where Pharmaceuticals are used and that this feed back into the procurement and financial planning systems.

Once the Pharmaceuticals have been delivered to the hospital pharmacy (etc.) they will need to be issued for use by patients.

The system for doing this was examined and tested for its effectiveness.

The results of this part of the audit appear under **Question #15** below.

5. Audit Criteria and its Sources

[It is essential to have suitable audit criteria for assuring the quality of a performance audit. Clarifying and developing the audit criteria might be part of the value added by the performance audit (ISSAI 3000/46). Therefore, it is important to state in the audit report, what are the audit criteria, how they were developed and what the sources were. Audit criteria are not always readily available in performance auditing. In such cases, the audit team needs to develop the criteria and agree with the audited entity. If the audited entity does not agree with the criteria, the auditor has the final responsibility to set it. The audit criteria are typically based on knowledge of best practice on how activities are carried out to be most economical and efficient (or what conditions are the most favourable for good performance and effectiveness).]

5.1 Audit Criteria

Audit Criteria for assuring the quality of the performance auditing are not always readily available. Accordingly, in accordance with the International Standards for Supreme Audit Institutions (ISSAI), we have used "good practice" and have determined the extent to which the systems and activities comply with economic, efficient, effective and equitable behaviour.

Given the experience of the audit team, we are confident that we have identified the most appropriate system against which to measure those currently in use in Oceania and that our conclusions are well grounded.

5.2 Meetings

Annex #2 records the main meetings held during the course of the audit.

5.3 Sources of Material

We gathered material from a wide range of sources both within and external to Oceania. These sources included, but were not limited to:

- Ministry of Health and Social Protection (MoHSP);
- Ministry of Finance (MoF);
- World Health Organisation (WHO);
- European Union (EU);
- International Organisation for Supreme Audit Institutions (INTOSAI); and
- World Bank (WB).

5.4 Primary Source Documents

The following are the key documents used for this audit:

- National Development Strategy 2016-30 (NDS);
- National Health Strategy 2010-20 (NHS);
- Demographic Health Survey in Oceania (2012) (DHS);
- Management Access to Medicines and Health Technologies (MSH);
- EU Health Development Project (HDSP) I, Sector Budget Support;
- EU Health Development Project (HDSP)II, TA and Sector Budget Support;
- Oceania in Figures (OSAT) 2019; and
- WHO Health Systems in Transition (HiT) 2016.

In addition, a large number of secondary sources were also examined. These are listed in Annex #3.

6. Audit Findings and Observations

[Audit findings represent the difference between 'what should be' and 'what is', also explaining the cause and the effect of this difference. It should clearly be related to the criteria and to the information gathered during fieldwork. The auditor shall ensure that the audit findings clearly conclude against the audit objective(s) and/or questions, or explain why this was not possible (ISSAI 3000/124). The findings could be organized according to the audit questions. Each audit question could be a chapter of the audit report, with its respective findings under it.]

6.1 Introduction

Audit findings represent the difference between "what should be" and "what is". They also explain the cause and effect of this difference. The ISSAI recommend structuring the audit findings in accordance with the audit questions (see Section #2 above); we have followed this recommendation.

Each of the audit questions identified in Table #1 in Section 2 above is dealt with the separate sub-sections below. There are also some additional data to expand or clarify the individual topics.

There are three elements to each of the questions:

- **Audit Evidence:** these describe the type and nature of evidence which was available to us;
- **Audit Findings:** this is the data we gathered as the result of our audit work; and
- **Audit Conclusions and Recommendations:** these are the conclusions which we drew from the findings and, where appropriate, our recommendations for remedying defects or improving the workings of the area under review.

6.2 Question #1: Is there a Comprehensive Strategy with regards the Development of Health Care within Oceania?

6.2.1 Audit Evidence: Health Care Strategy

This section of the report examines the evidence necessary to enable the question to be answered. The primary approach to gathering and reviewing this evidence was by the use of **document review.**

The key policy papers identified and used for this purpose were:

- National Development Strategy 2016-30 (NDS);
- National Health Strategy 2010-20 (NHS);
- Demographic Health Survey in Oceania (2012) (DHS);
- EU Health Development Project (HDSP) I, Sector Budget Support;
- EU Health Development Project (HDSP)II, TA and Sector Budget Support; and
- WHO Health Systems in Transition (HiT) 2016.

6.2.2 Audit Findings: Health Care Strategy

After examining the above papers in depth, the audit finding with regards the existence of a relevant government policy are detailed in the following paragraphs.

[Insert for your jurisdiction.]

6.2.3 Audit Conclusion and Recommendations: Health Care Strategy

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #1: Health Care Strategy

Topic	Conclusion	Recommendation
List of Essential Drugs	Despite being introduced in 1994 and being revised often, there is evidence that many pharmacists and physicians are unaware of it – or ignore it - and prescribe other medicines. Not all bodies are able to obtain supplies of the essential drugs. Domestic Drug supply is being encouraged.	MoHSP to publicise the list of essential drugs and ensure increased compliance therewith. MoHSP to increase availability of essential drugs to all key stakeholders. MoHSP to encourage import-substitution of essential drugs. MoHSP to encourage wider use of generic medicine (see also

	Oceania is currently only using 2% of generic medicine.	Question #8 for possible savings from this action).
Population Coverage	The reports examined indicate an inequitable coverage of health care throughout the country,	MoHSP to ensure more equitable resource distribution throughout the country (see also Question #4 for an indication of the scale of the problem with regards pharmaceuticals).
Spending as % of GDP	Whilst spending in terms of % of GDP is increasing – this is no longer the case in terms of spending per capita	To change the metric for measuring improvement in health spending from the percentage of GDP to a per capita basis.
Health Financing Reforms	This was not the subject of this audit but it is clear from the research undertaken that very large savings and a better service would be possible by reforming health finance	A considerable amount of work has been undertaken in this field in recent years. The MoHSP and MoF should take action at an early date and reap the benefits from such change.

6.3 Question #2: What are the processes and policies with regards Approval of New Products and Purchasing?

6.3.1 Audit Evidence: Approving New Products and Purchasing

The following sources were used to identify the policies with regards Pharmaceutical approval, purchase, storage and usage:

- MoHSP Procurement Policy;
- WHO guideline on procurement and pharmaceutical policy;
- WHO list of essential Pharmaceuticals/generic medicine;
- Pharmaceutical/Medicine Information Centre;
- National Pricing Policy and Purchasing Strategy;
- Essential Medicine List (called List of Essential Drugs in Oceania); and
- System for Monitoring Medicine Prices.

6.3.2 Audit Findings: Approving New Products and Purchasing

Approval of New Products

Question #1 identifies the key players and their roles in the approval process.

[Insert for your jurisdiction.]

Pharmaceuticals Purchase Policy

Question #1 examined the range of policy documents currently being applied in Oceania. This question examines these in relation to good international practice. The next paragraphs cover what we would expect to see in such a policy and our findings as to whether those in place in Oceania meet these requirements. The following sub-paragraph then indicates our conclusions and recommendations.

WHO Model List of Essential Medicines (2019)[3]

The World Health Organization (WHO) promotes the development of national Essential Medicines Lists (EML) in order to improve the availability and use of medicines considered essential within health care systems. However, despite over three decades of international efforts, studies show an inconsistent pattern in the availability of essential medicines.

The core list presents a list of minimum medicine needs for a basic health-care system, listing the most efficacious, safe and cost–effective medicines for priority conditions. Priority conditions are selected on the basis of current and estimated future public health relevance, and potential for safe and cost-effective treatment.

The complementary list presents essential medicines for priority diseases, for which specialized diagnostic or monitoring facilities, and/or specialist medical care, and/or specialist training are needed. In case of doubt medicines may also be listed as complementary on the basis of consistent higher costs or less attractive cost-effectiveness in a variety of settings.

Annex #6 provides an extract from the WHO model list.

Selection of Essential Medicines

The EML informs the procurement of medicines and provides a basis for deciding which medicines to invest in. Many countries have an EML of which the procurement list is established from. Further selection is done by the procurement board or team to form a list of medicines that should be in the store's price catalogue to limit what should be stock and always made available at the public health facilities.

Selection for procurement is important in rationalizing the scarce resources for vital products that must always be available at all level of health care. Very often health institutions procure medicine outside of the EML if the list does not address local needs and that the listed products are not always available.

As indicated under question #1 above, this is a case in Oceania. It is therefore important to involve a wider net of cadres as much as possible in the selection of a list of products to be procured through the Pharmacy and Therapeutics Committee (PTC) – or similar- so that they will use the list and medicines will not be wasted.

The vertical disease programme managers also select a list of products to be procured. This is usually done in collaboration with the partners who provide funding to the disease

[3] WHO Model List of Essential Medicines 2019

programmes. The programme managers maintain and update the lists of products to be procured for their various programmes.

Quantification and Forecasting Demand for Medicines

Consumption data is an important factor in determining quantification needs. Some procurement agents use distribution data, but this can be inaccurate as not all medicines distributed from the Central Medical Stores (CMS) to the health facilities are put into use. Other factors used are seasonal variations when disease pattern vary throughout the year. Morbidity data is often used to do forecasting when setting up a new procurement office.

Many parameters have to be taken into consideration to avoid cash being tied to stock or out of stock situations. When procuring for a CMS to be distributed to health facilities, the following have to be considered:

- Available financing;
- Stock on hand at all levels of distribution system;
- Orders that are expected to be delivered;
- Expected losses through expiry or damage;
- Medicines donations; and
- Desired stock at end of each planning period (safety and working stock at all levels).

Forecast information should form the basis of a procurement plan for the country. It is important to coordinate all forecasted data to reduce over or under purchase. Generally, each disease programme makes a medicine forecast for the particular disease, while the Ministry of Health or CMS prepares forecasts for other essential medicines. This has often resulted in fragmentation and weakening of the medicines procurement system.

Procurement of Medicines

Procurement involves efforts to quantify medicines requirements, selecting appropriate procurement methods, prequalifying suppliers and products. It also involves managing tenders, establishing contract terms, assuring medicines quality, obtaining best prices, and ensuring adherence to contract terms. Procurement methods should be linked to national medicines lists and prescribing patterns.

A lack of coordination of medicines supply systems, particularly for priority diseases, often results in duplication, inefficiency and increased workload at the facility level.

Assessment of national procurement and distribution systems should be carried out by gathering data from all partners involved in the process on the category of products supported, the financial investment in the product, the procurement agent used by the donor, and the ensuing storage and distribution channels

Features of Good Procurement

Public procurement should ensure compliance with the principles of transparency, competitive tendering and equal treatment for all suppliers. For example, the **Treaty on the Functioning of the EU** established the following principles of good procurement, which apply to any goods and not just medicines:

- **Transparency:** contract procedures must be transparent and contract opportunities should generally be publicised;
- **Equal Treatment and Non-discrimination**: potential suppliers must be treated equally;
- **Proportionality:** procurement procedures and decisions must be proportionate; and
- Mutual Recognition: giving equal validity to qualifications and standards.

These apply to all procurement activities, independent of their value.

Management Sciences for Health (MSH)[4] also identified key elements[5] that are expected to lead to a good procurement outcome:

- reliable payment and good financial management;
- procurement by generic name (international non-proprietary name);
- procurement limited to essential medicines list or formulary list;
- formal supplier qualification and monitoring;
- competitive procurement;
- monopsony commitment;
- order quantities based on reliable estimates of actual need;
- transparency and written procedures;
- separation of key functions;
- a product quality assurance programme;
- annual financial audits with published results; and
- regular reporting on procurement performance.

The **Interagency Pharmaceutical Coordination Group**[6], involving pharmaceutical advisers from United Nations International Children's Emergency Fund (UNICEF), the United Nations Population Fund (UNPF), World Health Organisation (WHO) and the World Bank (WB) identifies four **Strategic Objectives** and twelve **Operational Principles** for pharmaceutical procurement were developed and endorsed by the. The **four Strategic Objectives** are:

- to procure the most cost-effective medicines in the right quantities;
- to select reliable suppliers of high-quality products;
- to ensure timely delivery; and
- to achieve the lowest possible total cost.

The twelve **Operational Principles** cover the areas of efficient and transparent management, medicines selection and quantification, financing and competition, supplier selection and quality assurance.

Collaboration with key clinical experts to prioritize actions and engaging them is crucial to achieve responsible use of medicines, as they are ultimately the ones prescribing the medicines.

[4] Management Sciences for Health (MSH) is an advisory organization from Cambridge which has as its main mission is to support stronger health systems for greater health impact.

[5] Managing Access to Medicines and Health Technologies (2012); https://apps.who.int › medicinedocs › documents

[6] Challenges and opportunities in improving access to medicines through efficient public procurement in WHO European Region (WHO); Operational Principles for Good Pharmaceutical Procurement (1999;

Furthermore, reliable forecasting of demand and monitoring of use are required for sustained impact.

The **Organisation for Economic Co-operation and Development (OECD)** notes that four "pillars" are required for a good procurement system:

- legislative framework;
- integrity and transparency;
- institutional and management capacity; and
- operations and markets.

An effective public procurement system allows suppliers to provide satisfactory quality, service and price within a timely delivery schedule. The basic tenet of public procurement is contained in what are described as the **"five rights"**:

- **Right Product or Service:** a generic description within a clear specification is required;
- **Right Quality:** to get the right quality requires:
    - The right description and specifications, with the appropriate quality inspections;
    - The description, specifications and inspections set the minimum standard acceptable;
    - The description or specifications are generic and are not suited or aligned to one particular firm or group of firms;
    - The description or specifications are unambiguous;
    - All tender respondents have equal opportunity in obtaining all relevant details; and
    - Specifications avoid stating that items will be procured "as per sample", to ensure transparency.
- **Right Price:** to get the right price requires:
    - Rate estimation or justification is based on tangible factors; for example, last purchased rates, published maximum retail price, raw material cost, prices of similar or alternative products, or prevalent industry unit rate price;
    - Negotiations or counteroffers are rare and, if used, have specific guidelines, criteria and precautions;
    - The tender system aims to obtain the best possible price, and not an unreasonably low price;
    - Due diligence is exerted to look at all pages of all the offers received, to ensure that any price implications in the offer are identified; and
    - Vigilance is maintained, especially in cases of closely competitive tenders and unhealthy, cartel-type situations. Anti-fraud or anti-corruption software is applied when available. Protocols exist for declaring conflicts of interest and tracing accountability for all decisions.
- **Right Quantity**: to get the right quantity requires:
    - Right quantity for procurement is justified, taking into consideration all the stocks available. As many requirements for the same item as possible are

consolidated, taking into account the shelf-life of items and the lead time for procurement;
    - No major change to the tendered quantity occurs after submission, because this raises suspicion and creates a lack of transparency; and
    - There is vigilance when it is necessary to distribute quantities among more than one tender respondent.
- **Right Time and Place:** to get the right requires:
    - The right time and place for delivery are specifically and exactly stated in the tender (these have a bearing on the price), and the final accepted offer conforms to these factors;
    - Logistics of issues such as supply and mode of transport are clearly specified; and
    - Terms of payment are outlined.

Conclusion

Based on the above analysis, it clear that the Government of Oceania has sound policies - both for the approval of new pharmaceutical products and for the procurement thereof.

6.3.3 Audit Conclusions and Recommendations: Approving New Products and Purchasing

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #2: Approval and Purchase of Pharmaceutical Products

Topic	Conclusion	Recommendation
Approval of New Essential Drugs	As can be seen from the table above, the process for approving new drugs is comprehensive but seems unnecessarily detailed and time consuming.	MoHSP to review the approval process with a view to simplifying and speeding up the approval process.
Procurement Policy	The present policy is sound but there are always ongoing developments in the field. However, please also see Question #7 below.	Based on the "good international practice" identified above, the MoHSP should review and update its Pharmaceutical Procurement Policy. It should do this by obtaining external Technical Assistance to use the Organisation for Economic Co-operation and Development (OECD)'s Methodology

		for Assessment of National Procurement Systems[7] (MAPS).

6.4 Question #3: How does the total health expenditure in Oceania – in total and on Pharmaceuticals - compare with other countries and over time?

6.4.1 Audit Evidence: Health Spending in Total and Over Time

[Insert data from your jurisdiction.]

6.4.2 Audit Findings: Health Spending in Total and Over Time

[Insert for your jurisdiction.]

6.4.3 Audit Conclusions and Recommendations: Health Spending in Total and Over Time

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #3: Health Spending in Total and Over Time

Topic	Conclusion	Recommendation
Total Health Spending	The government is spending about the same percentage of its total spending on health as it was in 1995.	If the government wishes to achieve its stated policy objective of *"the improvement of the health status of Oceania's population"* it needs to increase the percentage of government expenditure on health.
Health Spending Over Time	There is no increase in spending which has "flat-lined" since 1995.	The government has indicated in targets increasing the % of GDP spent on health. It can only do this by increasing sending year-on-year. The recommendation is that the government develop a legally-binding mechanism for a specific annual percentage increase.

[7] http://www.mapsinitiative.org/methodology/MAPS-methodology-for-assessing-procurement-systems.pdf

6.4.4 Audit Evidence: Health Spending on Pharmaceuticals

The table below was prepared to indicate spending for Oceania:

Table: Oceania: Pharmaceutical Spending as a Percentage of Total Government Health Spending

Year	MoHSP Spending (O$'000)	Pharmaceutical Spending[8] (O$ '000)	Percentage
2015	1,204,464	41,700	0.346%
2016	1,263,882	35,200	0.279%
2017	1,440,782	30,800	0.214%
2018	1,557,543	40,800	0.262%

6.4.5 Audit Findings: Health Spending on Pharmaceuticals

Based on the Government's budget execution data, it seems that Oceania is not only spending considerably less than similar countries on pharmaceuticals but that the percentage for 2018 (0.262%) is markedly less than that for 2015 (0.346%). This is a reduction of some 24%.

6.4.6 Audit Conclusions and Recommendations: Health Spending on Pharmaceuticals

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #3: Health Spending on Pharmaceuticals

Topic	Conclusion	Recommendation
Spending on Pharmaceuticals and Other Medicinal Drugs	Oceania spends considerably less than its neighbouring countries and there is no evidence of any sustained increase which would move towards achieving its stated objective of "*providing accessibility to inexpensive quality essential drugs",*	If it wishes to meet its objectives, the MoHSP and government should develop a timed, costed plan to bring the percentage spent up to, say, 5% over a five year time span.

[8] Codes 05.4.03 and 05.4.3.04

6.5 Question #4: Is there equity of spending within regions of the country?

6.5.1 Background

- **Equity**

As indicated above, Equity is about ensuring fairness of government spending. In this case, Equity would indicate that every citizen has an equal right to the appropriate medicine for their needs. To provide genuine equality of opportunity society must cater more to those born with fewer skills and those born in socially disadvantaged areas.

Where there are areas of the country which suffer higher levels of poverty than others, there is a *prima facie* case for inequality. Whilst this report focuses on the inequality of provision of pharmaceutical products, the effectiveness of the government's policy for poverty alleviation is one which would repay further audit work in future.

- **Poverty**

Poverty rates in 2015 were around 5 percent and 20 percent using the USD1.9 2011 Purchasing Power Parity (PPP) international poverty line and the USD3.2 2011 PPP lower-middle-income country poverty line, respectively. While using the USD1.9 and USD3.2 lines, poverty is moderately low in Oceania.

[NB Illustrate Regional Poverty]

This section of the audit assesses whether this inequality is reflected in the provision of pharmaceutical products to each region of the country.

- **Human Capital Index (HCI) in Oceania**

Human capital consists of the knowledge, skills, and health that people accumulate throughout their lives, enabling them to realize their potential as productive members of society. Investing in people through nutrition, health care, quality education, jobs, and skills helps develop human capital, and this is key to ending extreme poverty and creating more inclusive societies.

Economic growth and development depend on both human capital and physical capital and on the factors affecting their productivity. Investments in human and physical capital complement and reinforce each other. To be productive, a workforce requires physical capital, such as infrastructure, equipment, and a stable well-governed economy. In turn, a healthy, educated workforce can earn more and invest more in an economy's physical capital.

- **Benefits to Economic Growth (Enterprises):** firms benefit from high skilled employees. Skills are found to explain a substantial part of the difference in growth rates between Organisation for Economic Co-operation and Development (OECD) countries. For example, increased GDP growth in Ireland, Japan, and South Korea has been linked to high investments in human capital; conversely, GDP growth in countries such as New Zealand and Switzerland grew, on average, less than 1.5% due to low investment in human capital; and

- **Benefits to Poverty Reduction (individuals).** Empirical research shows that building skills (whether cognitive, socio-emotional, or technical) can drastically improve employment outcomes, social outcomes, and civic engagement. In almost all countries worldwide, individuals with higher levels of education enjoy higher employment rates, are more often formally employed, and have higher earnings; and changes in earnings are the largest contributor to poverty reduction.

The overall HCI in Oceania currently stands at 0.53 which indicates that individuals and the country as a whole are foregoing almost half their future economic potential. The country modestly falls behind regional countries such as A (0.57) and B (0.58), while the gap with C (0.75) and the World average (0.63) is much more pronounced. The survival and health indices particularly suffer from high rates of infant mortality, stunting, and hypertension among adult women. Every major nutritional index for women in the Republic of Oceania has worsened at the national level since 2009, and growing rates of overweight and obesity among women pose a risk of chronic diseases such as cancer, cardiovascular disease, and diabetes.

This audit will help identify potential savings which could enable further spending to improve the HCI score.

6.5.2 Audit Evidence: Equity of Spending

There are two parts to this question:

- **Overall Equity:** how fair is the spending between provinces?; and
- **Demography Based Equity:** the extent to which this takes in population age differences.

Overall Equity

[Insert data]

Demography Based Equity

The reason behind also examining demography-based equity is that pharmaceutical need varies with the age structure of the population with those under 14 and over 55 need relatively more assistance[9]. Accordingly, the provision of pharmaceuticals must reflect this trend if equity is to be maintained.

Using a study of the use of prescription drugs by age[10], indicates the types of drugs most commonly used by age groups; these are outlined in the table below.

[9] See https://ec.europa.eu/eurostat/statistics-explained/index.php/Medicine_use_statistics#Prescribed_medicines
[10] Prescription Drug Use in the United States, 2015–2016 (NCHS)

Table: Use of Common Prescription Drugs by Age Group

Ages	Prescription Drugs	Treating
Young	Penicillins CNS Stimulants Bronchodilators	Infections Attention Deficit Order Asthma
Middle Aged	Lipid-lowering Drugs Analgesics Antidepressants	High Cholesterol Pain Relief Depression
Elderly	Anti-diabetic Drugs Beta-blockers Lipid-lowering Drugs	Diabetes High Blood Pressure; Heart Disease High Cholesterol

Based on these studies, the weights can be developed for use in determining the percentage of budget which should be spent on the basis of age to ensure an equitable distribution of resources. These weightings can be refined, if required, by a detailed costed analysis of prescribed medicines by age in Oceania. However, it is our opinion, that this simple model is adequate for illustrative purposes.

6.5.3 Audit Findings: Equity of Spending

6.5.4 Audit Conclusions and Recommendations: Equity of Spending

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #4: Equity of Spending

Topic	Conclusion	Recommendation
Overall Equity		
Demographic Equity		

6.6 Question #5: is the Procurement Plan fully comprehensive?

6.6.1 Audit Evidence: Procurement Plan

Audit Work

Obtain the working papers used by the MoHSP to draft their Pharmaceutical Procurement Plan and ensure that it covers:

- ***Completeness:*** *does the plan cover ever drug to be purchased?;*
- ***Volume:*** *do the volumes used accord with those of previous years adjusted for changes in population or level of service delivery?;*
- ***Price:*** *do the level of prices used reflect those of the previous years; is their scope for lowering prices by changing procurement methods:*
- ***The system which records total drug*** *use during the year should automatically feed into the development of the next year's Procurement Plan. This should be the starting point: the data will then be adjusted for known and potential price changes; potential changes in usage due to policy changes (e.g. widening access to specific drugs) and/or demographic changes (e.g. more old people requiring more medicine).*

6.6.2 Audit Findings: Procurement Plan

Audit Result

Either there will be a procurement plan in accordance with good international practice or there will not! If the plan does not meet good practice or if there is no procurement plan or the ministry cannot produce the working papers, we will report this together with the recommendation as to what is needed in future – including providing a pro forma example of such a plan and how it should be prepared.

Procurement Planning

- **Forecasting and Quantification**

After medicines to be procured have been selected, a choice which should be made based on the national essential medicines list or hospital formularies. Further, before the call for bids is launched, the quantity of medicines to be procured must be estimated. Two main methods are used to forecast needs: one based on **past consumption data** and the other based on **morbidity data**.

The best outcome is usually obtained when the two data sources are combined to generate a final estimate of needs for a particular time period. Once the quantity needed has been established, it needs to be costed and the forecasted expenditure compared with the available funds before a supply plan is developed.

- **Analysis of Utilisation**

Analysis of utilisation data, including price and expenditure data, can help identify levers for creating efficiencies and thus generate savings. The information generated is particularly valuable to drug therapeutic committees.

- **ABC Analysis**

In this analysis, products are classified according to their value (expenditure) for the respective buyer in three categories:

- **"A":** those few items accounting for 75–80% of the total value;
- **"B":** those items that take up the next 15–20%;
- **"C":** the bulk of items, which only account for the remaining 5–10% of the total value.

Typically, category "A" items constitute 10–20% of all items, with category "B" items constituting another 10–20% and the remaining 60–80% in category "C".

Once the high-volume products have been identified, it is important to check whether lower-cost alternatives are available in the market. Alternatively, it is possible to consider opportunities for therapeutic substitution or to try to negotiate lower prices with suppliers. ABC analysis can also support analysis of consumption versus public health needs and possible poor-quality use of medicines.

- **Therapeutic Category Analysis**

This analysis builds on the ABC analysis by looking at consumption and spending at therapeutic class level instead of international non-proprietary name level.

- **Vital, Essential and Non-essential (VEN) analysis**

In a VEN analysis, medicines are classified as vital (V), essential (E) and nonessential (N). Vital medicines are potentially life-saving or crucial to providing basic health services; essential medicines are effective against less severe but significant forms of disease, but not absolutely vital to providing basic health care.

Nonessential medicines are used for minor or self-limited illnesses; these may or may not be formulary items and efficacious, but they are the least important items stocked

- **Procurement Modalities**

According to a Survey of 53 member states Public Procurement Practices in the WHO European Region the majority of countries (27 of the 36 responding) used the lowest price is one of the award criteria, but not the sole criterion.

Others include quality (25), ability to supply a share of the market (16) and enhanced competition (13).

The 10 factors listed as "other" were:

- other terms of the tender documents, such as delivery time, shelf-life and so on (Cyprus);
- special criteria applicable for medical devices (Denmark);
- priority rights for domestic manufacturers (Kazakhstan);
- delivery time and registration (Malta);
- expiry date (Poland);

- cost–effectiveness (Norway);
- compliance with the required delivery dates, specifications and registration at the national regulatory authority (Kyrgyzstan);
- distribution (Romania);
- business continuity/resilience (Scotland); and
- provision of associated services (Scotland).

6.6.3 Audit Conclusions and Recommendations: Procurement Plan

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #5: Procurement Plan

Topic	Conclusion	Recommendation

6.7 Question #6: How is the annual budget for Pharmaceuticals created and how accurate is it?

6.7.1 Audit Evidence: Annual Budgeting for Pharmaceuticals

Budget Preparation

Audit Work

From the most recent budget passed by Parliament extract the amounts approved for the purchase of Pharmaceuticals and Other Medicinal Drugs.

From either MoHSP or MoF obtain the Working Paper file which builds into these amounts.

Document the process for building up the figures – in particular identify the original figure requested by the MoHSP and if it was reduced what was the process in doing this.

This should then be related to good international practice.

Accuracy of the Budget

If the budget is prepared correctly using the best available data, there should be limited differences between the original budget figure as passed by Parliament and that appearing in the Annual Financial Statements. The larger the difference, under normal circumstances, the more inaccurate was the original budget and, thus, the more inefficient the budgeting process.

In addition to the detailed examination of the Pharmaceutical and Other Medicinal Drugs budget, we have also examined the accuracy of the overall budget for the MoHSP. The rationale behind this is that if the overall budget is not soundly based, it will be impossible to accurate allocate resources to Pharmaceutical and Other Medicinal Drugs or indeed any other area of MoHSP spending.

An inefficient budgeting process results in the inability of the MoHSP to purchase the pharmaceutical products it requires to safeguard the medical health of the citizens of Oceania. The tables below examine the accuracy of the budget in recent years.

Table: Budget Versus Actual Expenditure: MoHSP

Year	Original Budget (O$ '000)	Actual Expenditure (O$ '000)	% Spent
2015	1,204,464	940,500	78.1%
2016	1,263.882	1,158,200	91.6%
2017	1,440,782	1,385,200	96.1%
2018	1,557,543	1,551,500	99.6%

Table: Budget Versus Actual Expenditure: Pharmaceuticals and Other Medicines

Year	Original Budget (O$ '000)	Actual Expenditure (O$ '000)	% Spent
2015	41,700	26,900	64.5%
2016	35,200	23,800	67.6%
2017	30,800	30,300	98.4%
2018	40,800	34,000	83.3%

6.7.2 Audit Findings: Annual Budgeting for Pharmaceuticals

Budget Preparation

Audit Result

Either there will be a working paper file indicating that the budget figures were prepared in accordance with good international practice or there will not! If the process does not meet good practice or if the ministry cannot produce the working papers, we will report this

together with the recommendation as to what is needed in future – including providing a pro forma example of such a plan and how it should be prepared.

Accuracy of the Budget

The MoHSP is now spending almost the entire budget that it is voted by Parliament; which is excellent. However, it is important that it budget preparation procedure is comprehensive and identifies all of the required spending necessary to achieve the government's overall objectives in the health sector. This can be compared with the amounts actually approved by Parliament. If there is a significant difference, the body responsible for reducing the original MoHSP draft budget must take responsibility for the resulting sub-optimal level of service.

Annex #7 documents good practice in overall budget preparation.

6.7.3 Audit Conclusions and Recommendations: Annual Budgeting for Pharmaceuticals

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #6: Annual Budgeting for Pharmaceuticals

Topic	Conclusion	Recommendation
Preparation of the Budget		
Accuracy of the Budget		

6.8 Question #7: How are orders for Pharmaceuticals placed?

6.8.1 Audit Evidence: Pharmaceutical Ordering

Audit Work

Document the system for placing orders for pharmaceutical supplies.

You can either document the system in writing or – better – by the use of a flow chart. This flow chart/note will be a ***key audit working paper.***

Select five recent orders and use "walk-through" tests (i.e. following each item through the system) to make sure that the system functions as described. The results of the tests will form another ***working paper.***

We would expect this to contain precise details of the tendering procedures to be followed.

In particular we need to ensure that the required ***tender processes*** *have been followed exactly and that each stage has been fully documented as this is one of the main areas where corrupt practices occur world-wide.*

6.8.2 Audit Findings: Pharmaceutical Ordering

Audit Result

Compare the system with good international practice and make any necessary recommendations for improvement.

If any of the walk-through items fail the test, further work might be needed as this could be the result of corruption. If there is prima facie evidence for this, it will be reported and become the subject of a separate audit study.

Procurement: Pharmaceutical ordering methods

Countries use different types of procurement method when they are conducting pharmaceutical ordering. These fall into four main groups: open tender, restricted tender, competitive negotiation and direct procurement. All can be used for multisource and single source products under different conditions (apart from direct procurement, which makes sense only for single-source products since it does not compare the prices of different suppliers).

In an **open-tender** bids are invited from any supplier representative, subject to the terms and conditions specified in the tender document. All suppliers interested in the tender may bid.

In a **restricted tender** interested suppliers need to be approved in advance – for example, through a formal prequalification process that takes into account adherence to good manufacturing practices, past supplier performance, financial viability and similar. The process of prequalification is often open to any supplier. A reverse auction is a two-step variation of a restricted tender, in which the lowest price offered is published without naming the bidder and qualified bidders are invited to submit lower offers. The process continues until no more offers are made. This procurement method has seldom been used for medicines.

In a **competitive negotiation** the buyer invites a preselected number of suppliers to submit price offers. Negotiation may follow to achieve a better price or particular service arrangements. Several procurement agencies use this method. Examples of application of this method are the negotiation of reduced prices for antiretrovirals conducted by the United Nations Children's Fund (UNICEF) and the Clinton Foundation. International or local shopping is based on the same principle, but negotiation is not permitted.

Direct procurement deals with a single supplier (for example, with single-source products) and procures at list prices or negotiated prices. In general, single-source products may be procured via negotiated procurement, direct procurement or tendering of the single-source product and therapeutic substitutes in order to create a competitive environment.

For many of the following procurement practices, the evidence from the literature is too weak to conclude that they represent universal "best practices" in the procurement of medicines. This is due to the diversity of studies providing evidence on their impact. The findings are mostly based on individual studies of a single country's procurement method; they use different methods and analyse different products, making the evidence very context-specific and not necessarily generalizable to other settings.

Under specific circumstances and in specific settings, the following practices in the area of strategic procurement have been found to lead to competitive prices and increased access for patients (see table below).

Table: Procurement Practices likely to lead to more Competitive Prices and Increased Access for Patients

Procurement Practice	Countries using the practice
A Centralised Body to negotiate prices of in-patent medicines	Denmark, France, Greece, Italy, Norway, Malta, Mexico, Spain, United Kingdom
Analysis of the Market and Products	Denmark, France, Italy, Norway, Spain, United Kingdom
Pooling Volume at Different Levels	Brazil, Bulgaria, Cyprus, Croatia, Denmark, England (United Kingdom), Finland, Georgia, Greece, Hungary, Iceland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Malta, Poland, Portugal, Republic of Moldova, Republika

	Srpska (Bosnia and Herzegovina), Romania, Russian Federation, Serbia, Slovenia, Spain (various regions), **Oceania,** Ukraine, United Kingdom
Involvement of Clinical Staff in the Procurement Process to ensure products procured are in line with clinical needs and development of new clinical guidance before introduction of the new products	Denmark, Italy, Norway, Scotland (United Kingdom), Sweden
Use of Framework Agreements with Suppliers	Belgium, Bulgaria, Croatia, Czechia, Denmark, Finland, France, Greece, Hungary, Iceland, Italy, Norway, Portugal, Republika Srpska (Bosnia and Herzegovina), Romania, Slovenia, Spain, United Kingdom, United States
Bidding at ATC (Anatomical Therapeutic Chemical (classification system) level 4 (analogue competition)	Belgium, Bulgaria, Cyprus, Denmark, France, Hungary, Lithuania, Norway, Poland, Slovenia, United Kingdom
Price–volume agreements for expensive medicines	Denmark, France, Italy, Lithuania, Spain
International Procurement Agencies	GDF, United Nations Development Programme, UNICEF, United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA)

NB: Data from findings from the literature review, the survey and information from WHO networks (WHO 2016).

6.8.3 Audit Conclusions and Recommendations: Pharmaceutical Ordering

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #7: Ordering Pharmaceuticals

Topic	Conclusion	Recommendation

6.9 Question #8: Are the Pharmaceuticals obtained for the best possible price?

6.9.1 Audit Evidence: Best Possible Price

Audit Work

Obtain copies of eight examples of recent payments for the purchase of pharmaceuticals ensuring that the selected invoices include several examples of both "Core" and "Supplementary" medicines. NB we are not looking for a random sample but for data to examine for pricing.

From the invoices complete the following matrix:

Supplier	*Medicine*	*Size*	*Type*	*Unit Cost*
	Acyclovir	*200mg*	*Capsule/Tablet*	
	Amitriptyline	*25mg*	*Capsule/Tablet*	
	Ampicillin	*250mg*	*Tablet*	
	Chloramphenicol	*550mg*	*Tablet*	

*The items **in red italic font** are examples of things which you might include.*

*This **matrix** will form one of the **key audit working papers** for this question.*

We will then search to see if it was possible to obtain them at a better price and also explain how the use of framework contracts could be used.

We will see if savings were possible by:

- *using a different supplier;*
- *buying larger quantities;*
- *making use of generic pharmaceuticals; and*
- *having prompt payment discounts in contract.*

*We will provide **a revised matrix** indicating where savings could be made – if they can be another **key working paper**.*

We would then need to try to upscale the saving on the invoice for the whole year which would be another working paper.

6.9.2 Audit Findings: Best Possible Price

Audit Result

We should be able to indicate that savings are possible with very little change in the purchasing process but that consideration should also be given to looking into more fundamental changes which could generate even more savings.

6.9.3 Audit Conclusions and Recommendations: Best Possible Price

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #8: Purchasing for Best Possible Price

Topic	Conclusion	Recommendation

6.10 Background to Pharmaceutical Stores Management

The following sections of Audit Findings and Recommendations relate to the key aspects of **Pharmaceutical Stores Management**. In terms of "good international practice", we would expect to see a comprehensive **Management of Medicines and Health Supplies Manual**. The relevant sections of such a manual will be examined under questions #9 to #14.

The Manual itself could comprise:

- **Essential Medicines and Supervision:** including identifying whether the medicines are:
  - **Vital:** life-saving first priority items;
  - **Essential:** pain and great discomfort second priority items; and
  - **Necessary:** needed by third priority.
- **Organisation of the Medical Store:** including ensuring quality of products;
- **Stock Management:** including detailed stock records;
- **Ordering Supplies:** how to order supplies;
- **Receiving and Issuing Supplies**: also covering donations and discrepancies;
- **Dispensing:** procedure and records;
- **Laboratory Commodities:** managing these;
- **Stock-out at Supplier**: action to take;
- **Short-dated and Expired Stock:** action to take; and
- **Abuse, Misuse and Theft:** prevention.

Medical Stores Management[11] should assist both the flow and reliability of supplies from source to user as economically and reliably as possible without significant wastage, loss of quality or theft. The following are characteristics of good stores management which we would expect to see in place:

- the store should be divided into zones which provide a variety of climatic conditions and security;
- there should be an appropriate zone of each different type of product to be stocked;
- stock should be organised in each zone in an orderly fashion;
- stock should be stored off the floor on pallets, racks or shelves;
- "good housekeeping" – cleaning and inspection; disposal of expired or damaged stock; recording of stock movements; and the management of security - should be maintained;
- clear management structure;
- staff should be trained, experienced, qualified and well rewarded;
- clear written procedures and hand-books should be available;
- staff should have good working conditions and facilities; and
- stocks should be verified regularly and periodic audits undertaken.

For effective stores control the system has to be IT based. There are several Commercial Off-The-Shelf (COTS) examples of software or a system can be bespoke for the precise operating conditions in Oceania.

Stock, and the information that accompanies it, should flow through the warehouse in an orderly manner. This process has six stages:

- **Receiving:** Question #9;
- **Storage:** Questions #10, #11 ;
- **Allocation of Stock:** Question #12;
- **Order Picking:** Question #12;
- **Order Assembly:** Question #12; and
- **Dispatch and Delivery**: Question #14

Examples of the form of good practice text which should appear in the manual appear in the Audit Findings section of each of the questions where it has been compared to the actual system as documented to enable the Audit Conclusions as to the efficacy of the current systems to be determined.

[11] https://www.msh.org › msh.org › files › mds3-ch44-medicalstores-mar2012

6.11 Question #9: What is the system for recording receipt of Pharmaceutical orders to the store?

6.11.1 Audit Evidence: Recording Pharmaceutical Delivery

Audit Work

From the sample selected under Question #8 select a location where the order was delivered and which can be easily visited. Document the system for recording the delivery of pharmaceutical supplies.

You can either document the system in writing or – better – by the use of a flow chart. This flow chart/note will be a ***key audit working paper.***

Use "walk-through" tests (i.e. following each item through the system) to make sure that the system functions as described. The results of the tests will form another ***working paper.***

6.11.2 Audit Findings: Recording Pharmaceutical Delivery

Audit Result

We will compare the system as documented with international good practice and see if we are going to recommend any changes; we will also report if the walkthrough tests indicate that the current system is being ignored.

With the exception of locally purchased items, multiple copies of the supplier's shipping documents and invoice should be received by the Medical Stores before the supplies arrive at the port of entry. This information should be entered into the stock management system to enable the order to be tracked.

As soon as the items arrive in the country, they should be cleared through customs to protect the quality of the pharmaceuticals.

The containers should be inspected and any damaged or missing cases reported immediately to the port authorities (border or airport), insurance agents and customs officials.

When the delivery arrives at the warehouse it should be stored in a quarantine area until the contents have been checked. The receiving clerk should systematically check the contents against the supplier's invoice. Discrepancies, variations and damage should be noted on the invoice.

A prompt and thorough inspection, based on pre-determined criteria, is essential to quality assurance and as a precursor to any insurance claim. Table x below provides a checklist of sample inspection criteria.

The annotated invoice should be signed by the senior manager. One copy should be filed with the purchase order to which it relates. Another copy and the annotated invoice should be forwarded to the stock control section (also possibly another copy to the accounts section). The items should then be entered onto their respective stock record cards. The new stock on hand (and on order) totals are calculated as well as the new charge out rate per unit.

Table: Inspection Checklist for Pharmaceutical Receipts

Product	Notes	Checklist
All Shipments	Compare the good with the supplier's invoice and original purchase order or contract. Note any discrepancies on the receiving report. Take a sample for testing.	1. Number of containers delivered is correct; 2. Number of packages in each container is correct; 3. Quantity in each package is correct; 4. Drug is correct (do not confuse generic name and brand name); 5. Dosage from is correct (tablet, liquid, other); 6. Strength is correct(milligrams, percentage concentration, other measurement); 7. Unique identifiers present if required (article code; MoHSP stamp; etc.); and 8. No visible evidence of damage (describe of present).
Tablets	For each shipment, tablets of the same drug and dose should be consistent.	1. Tablets are identical in size; 2. Tablets are identical in shape; 3. Tablets are identical in colour (although the shade may vary between batches); 4. Tablet markings are identical (scoring; lettering; numbering); 5. There are no obvious defects (check for spots, pits, breaks, uneven edges, cracks, embedded or adherent foreign matter or stickiness); 6. There is no odour when a sealed bottle is opened (except for flavoured tablets and those with active ingredients usually having a characteristic odour); and 7. There is no odour after the tablets have been exposed to the air for 20 or 30 minutes.
Capsules	For each shipment, capsules of the same drug and dose should be consistent.	1. Capsules are identical in size; 2. Capsules are identical in shape; 3. Capsules are identical in colour (although the shade may vary between batches); 4. Capsule markings are identical; 5. There are no obvious defects (check for spots, pits, breaks, uneven edges, cracks, embedded or adherent foreign matter or stickiness); 6. There are no empty capsules; and

		7. There are no open or broken capsules.
Parenterals	Parenteral are products for injection (Intra-venous (IV) liquids; ampoules; dry solids for reconstitution; suspensions for injection).	1. Solutions are clear (solutions should be free from undissolved particles within permitted limits); 2. Dry solids used for injections are completely free from visible foreign particles; and 3. There are no leaking containers (bottles or ampules).

6.12.3 Audit Conclusions and Recommendations: Recording Pharmaceutical Delivery

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #9: Recording a Pharmaceutical Delivery

Topic	Conclusion	Recommendation

6.13 Question #10: What is the system for recording the Pharmaceuticals held in stores?

6.13.1 Audit Evidence: Stores Records

Audit Work

At the same location as in Question #9, document system for holding pharmaceutical supplies in store. This should include whether there are automatic re-order levels, the value of the items held, etc.

We also need to document the method of ***stock valuation.***

Again, you can either document the system in writing or – better – by the use of a flow chart. This flow chart/note will be a ***key audit working paper.***

We will test if our items have been correctly recorded.

6.13.2 Audit Findings: Stores Records

Audit Result

We will compare the system as documented with international good practice and see if we are going to recommend any changes.

In order to avoid an accumulation of expired and obsolete stock, items should be issued on a First-In First-Out (FIFO) or First-Expired First-Out (FEFO) basis, according to the following guidelines.

The stock control system must record the expiry date and date of receipt. Stock must be stored so that the earliest-expiring or first-delivered batches can be picked and issued first.

When small quantities are involved, this goal can be achieved by placing the newly received stock at the back of the shelf behind the existing stock.

When larger quantities are involved – for example several pallet loads – the newly received items can be placed on the upper levels of the pallet racking. They remain there until the older stick has been issued.

The “picking stock” (see below) should be kept in an accessible position - assuming that orders are picked by hand in relatively small quantities.

In warehouses where whole pallet loads are picked for distribution to lower-level stores, this is not so much of a problem as mechanical transported will be used.

Newly arrived stock sometime has an earlier expiry date than a previously received batch of the same item. If a FEFO system is used, this stock should be “promoted” and used first. Making this adjustment is particularly important for items with a short shelf life such as vaccines.

6.13.3 Audit Conclusions and Recommendations: Stores Records

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #10: Stores Records

Topic	Conclusion	Recommendation

6.14 Question #11: Are the storage facilities suitable for the safe long-term storage of all classes of Pharmaceuticals?

6.14.1 Audit Evidence: Storage Facilities

Audit Work

There are two main security aspects to this element of the audit:

- ***Security (Quality):*** *pharmaceuticals have to be stored in special ways; all will need to be stored in a dry environment with little light; other will need to be refrigerated at a specific temperature; yet others may need to be kept frozen.*

  Audit Work: *for the items already selected locate where they are stored. Check that these locations are in accordance with any manufacturer's instructions on the medicine. Also ensure that the medicine with the shortest use-by date is at the front of the shelves to be used first as, if this is not done, items may become obsolete.*

  The ***working paper*** *here will record what we actually see.*

- ***Security (Physical):*** *pharmaceuticals are valuable, easily portable items and saleable. The stores where they kept must offer sound security against external theft.*

  Audit Work: *this will make use of the audit technique of observation. Basically, whilst doing the other work we will observe and record what we think of the overall security. Are the windows and doors secure, are the cctv cameras, are there burglar alarms; etc.*

  Again, the ***working paper*** *here will record what we actually see.*

The ***audit work*** *here will be of a more "traditional" nature and involve* ***visiting the medical store and examining the physical security and undertaking spot checks*** *on all the other aspects referred to above.* ***A formal audit check-list*** *will used for this process which forms part of the* ***working papers*** *of this part of the audit (attached).*

6.14.2 Audit Findings: Storage Facilities

Audit Result

We will compare the system as documented with international good practice and see if we are going to recommend any changes.

After incoming stock has been checked and approved, it is formally released from the receiving area and moved into the warehouse to be stored in the appropriate zone. New stock may be stored on floor pallets, pallet racks or shelves. Receipts should be entered on the bin card when the items are transferred to the storage area.

Pharmaceuticals must be located in the part of the store with the correct combination of temperature and security. This initial zoning process is the most basic way in which supplies are arranged.

A zone can be a separate building or room, a locked cupboard, a refrigerator, freezer or cold room. The table below indicates several possible combinations of temperature and security and how to classify items accordingly.

The product manufacturer's instructions should be followed to the maximum extent possible. If these instructions cannot be followed, the product should be kept in the most suitable conditions available and used as soon as possible. The product manufacturer should be contacted before violating recommend storage conditions to determine how long the product will remain safe and effective under the actual storage conditions.

If no specific instructions are given, "normal storage" conditions apply. Normal storage for medicines has been defined as:

> *"storage in dry, well-ventilated premises at temperatures of +15C to +25C, or, depending on climatic conditions up to +30C" (WHO 2003).*

Each zone should have at least one maximum-minimum temperature thermometer and the temperature recoded daily.

The potency of vaccines, sera, test kits and many other items depend on **cold storage**. Vaccines, in particular, are temperature-sensitive and must be kept at precisely controlled temperatures from the point of manufacture to the point of administration. All vaccine storage sites must have stand-by generators in the event of power failure; these should be tested on a regular basis.

Narcotics and other controlled substances should be kept in **secure storage**. Ideally a red warning light or bell should be activated every time the store is opened. Entry to the secure store must be limited to as few senior people as possible. Such procedures might also be required for non-narcotic medicines which are frequently stolen such as antiretrovirals.

Flammables, such as ether or alcohol, must be stored in special buildings or rooms. A separate building is best as it reduces the risk of fire spreading to the main stores. The flammable store must be well ventilated and fire-proof. It should also have a "explosion hatch" which may be part of the walls or roof.

Table: Temperature with Security Zones

#	Category	A: Normal Security	B: High Security	C: Flammable	D: Corrosive
1	**Uncontrolled Temperature**	**X**	**X**	**X**	**X**
2	**+15 to +25/30C**	**X**	**X**		
3	**O to +8C**	**X**			
4	**-20C**	**X**			

N.B. The +15 to +25/30C category is assumed to be air-conditioned and, thus, temperature controlled. Cells marked X are commonly required temperature/security combinations. Other combinations may be required for specific products. For example, zones 3B and 4B may be needed for vaccines if the vaccines have a black-market value (e.g. hepatitis B).

The stores staff must undertake **regular counts** of physical stock and compare this with the bin cards and perpetual inventory record. There should also be regular checks by internal audit and external audit as part of the financial audit of the Annual Financial Statement (AFS)

6.14.3 Audit Conclusions and Recommendations: Storage Facilities

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #11: Storage Facilities

Topic	Conclusion	Recommendation

6.15 Question #12: What is the system for the issue of Pharmaceuticals from the store to the user (pharmacy, dispensary, etc.)?

6.15.1 Audit Evidence: Pharmaceuticals Issue System

Audit Work

This is the third sub-system of the Medical Stores Management System. Again, we will record the system for issuing medical supplies. In particular we will examine the policy on determining the rate at which to charge the items.

You can either document the system in writing or – better – by the use of a flow chart. This flow chart/note will be a ***key audit working paper.***

We will use the items which appear on our original order for the "walk-through" test.

We will identify the rate at which each of our items was issued in the most current filled order and determine if this rate reflects the actual cost of the items, plus stores handling costs.

6.15.2 Audit Findings: Pharmaceuticals Issue System

Audit Result

We will compare the system as documented with international good practice and see if we are going to recommend any changes.

One form of **Order Allocation System** is the "pull distribution system". Under this system lower-level stores and health facilities submit requests or requisitions for supplies. At most medical stores, a designated official is responsible for reviewing the requisitions and allocating stock based on inventory levels at the requisitioning facility, in the issuing warehouse and on the basis of previous usage. This – or a more formula basis method – is used to prevent over- or under-ordering.

Usually, the order quantity is rationed only in the case of insufficient stock or funds. The requisitioning facilities budget must also be taken into account when determining allocations. After the allocation has been made the order can be "picked".

The allocated quantities form the **"order picking list".** This list is passed to the storekeeper. In a large store the list may need to specify where to find the item but this should not be necessary in a smaller store.

The listed items should be taken from stock in strict FIFO of FEFO order and taken to the packing area for assembly. As items are taken from stock the bin cards should be updated.

The **order is assembled** in a secure shipping location. The supplies are arranged in the order that they appear on the picking list or requisition voucher. The order is double checked by

the storekeeper or shipping clerk before it is packed, sealed and labelled for delivery. Some items such as vaccines require special handling and packing.

6.15.3 Audit Conclusions and Recommendations: Pharmaceuticals Issue System

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #12: Pharmaceutical Issue System

Topic	Conclusion	Recommendation

6.16 Question #13: Have Pharmaceuticals been charged out at the correct rate?

6.16.1 Audit Evidence: Charge-out Rates

Audit Work

It is important that when pharmaceuticals are issued from the medical store that they are charged out (issued) at the correct price. There are different ways of calculating this but the rate must cover the initial purchase price plus stores handling charge.

We will need to obtain details of the policy which determines the amount to be charged.

We will then need to select, say, ten recent issues and check that the amount charged to each item on the list has been correctly calculated.

The policy and our audit test results will form ***key working papers.***

6.16.2 Audit Findings: Charge-out Rates

Audit Result

We will compare the system as documented with international good practice and see if we are going to recommend any changes.

6.16.3 Audit Conclusions and Recommendations: Charge-out Rates

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #13: Charge Out Rates

Topic	Conclusion	Recommendation

6.17 Question #14: Is there a Sound System for delivering the Pharmaceuticals to the User?

6.17.1 Audit Evidence: Delivery System

Audit Work

As with the need for good security when being held in store, it is important that there is a secure delivery system. This most ensure that the same amount of pharmaceuticals as are issued from the store arrive at the end user's location and that they are still in prime condition.

We will need to obtain details of the system and confirm that there is appropriate documentation which confirms delivery of the amounts issued.

*We should also **observe** an issue to see if the method used ensures that the pharmaceuticals arrive in peak condition.*

*The system and our audit test results will form **key working papers**.*

6.17.2 Audit Findings: Delivery System

Audit Result

We will compare the system as documented with international good practice and see if we are going to recommend any changes.

In the most commonly used in-house delivery system, supplies are generally distributed according to a fixed delivery schedule. In some instances, a collection system may be used whereby representatives from the health facility collect supplies from the store.

A clerk should complete a delivery voucher which should list the number and types of the shipped packages. Their specific content should not be shown unless the items require

special handling such as vaccines, loose items (such as bulk germicides) and medical gas tanks.

The driver should sign the voucher and take two copies with him together with two copies of the invoice or completed requisition form. A third copy of the delivery voucher should remain bound in the delivery vouchers book which is maintained by the clerk.

When the driver arrives at the medical facility he should count and inspect the packages with the facility's receiving officer. Any discrepancy or damage should be noted on the delivery voucher. The driver and receiving officer both sign a copy of the voucher and keep one each.

Ideally, the packages should be opened and contents agreed to the requisition form in the presence of the driver; however, time constraints mean that this is not always possible.

The signed delivery voucher certifies that the drive has safely delivered the order. The receiving store retains the two copies of the completed requisition form. One is signed and dated and returned to the issuing store and any discrepancies investigated.

The driver returns his signed copy of the delivery note to the inventory clerk at the main store who signs and dates it and also signs and dates the permanent copy in the delivery vouchers book.

That copy – now bearing the signatures of the driver, receiving officer, inventory clerk and dates – is placed on file with the file copy of the completed requisition form.

Modern systems will use e-documents and e-signatures in place of hard copy ones.

6.17.3 Audit Conclusions and Recommendations: Delivery System

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #14: Pharmaceutical Delivery System

Topic	Conclusion	Recommendation

6.18 Question #15: What is the system of recording Pharmaceutical Usage?

6.18.1 Audit Evidence: Pharmaceutical Usage Recording

Audit Work

Document the system(s) for recording the usage pharmaceutical supplies. This is a key component of the procurement process as the usage of pharmaceuticals in the current year should be the starting point for the development of the Procurement Plan for next year.

Is this an IT based system?

You can either document the system in writing or – better – by the use of a flow chart. This flow chart/note will be a ***key audit working paper.***

Perform a number of "walk-through" tests to determine whether or not the system is being followed

6.18.2 Audit Findings: Pharmaceutical Usage Recording

Audit Result

We will compare the system with good international practice and make any necessary recommendations for improvement.

6.18.3 Audit Conclusions and Recommendations: Pharmaceutical Usage Recording

As a result of the above audit findings, we have made the conclusions and recommendations which appear in the table below:

Table: Audit Conclusions and Recommendations: Question #15: Pharmaceutical Issue Recording

Topic	Conclusion	Recommendation

7. Conclusions

[Report conclusions are logical inferences about the subject matter based on the auditors' findings, not merely a summary of the findings. The strength of the auditors' conclusions depends on the sufficiency and appropriateness of the evidence supporting the findings and the soundness of the logic used to formulate the conclusions. Conclusions are more compelling if they lead to the auditors' recommendations and convince the knowledgeable user of the report that action is necessary.]

Annex #1: Summary of Health Sector

[This will be a more detailed review of the Health Sector than the one in the main body of the text.]

Annex #2: Schedule of Meetings Held

NB Each meeting should be fully recorded and minuted in this format.

RECORD OF MEETING

Meeting held with:		
Location:		
Date:		
Persons met:		
Meeting Record		**Action by**
Purpose: **Discussions:** **Outputs:** **Issues**:		
Initials:		

Annex #3: Secondary Source Material

NB List all secondary sources consulted.

Area	Source	Website (if available)[12]
Health Policy	• Strategic Plan for Further Reform of Health Financing in Oceania 2015-18; • Strategic Plan for the Development of Family Based PHC, 2016-2020; • EU "Gender Equality and Women's Empowerment: Transforming the Lives of Girls and Women through EU External Relations 2016-2020" Joint Staff Working Document; • The New Strategic Plan for Health Financing (under development within the MoHSP); • The New National Health Development Strategy 2030 (under development); • Health Expenditure Per Capita (WHO) (2017); and • Public Spending on Health (WHO)(2018).	• N/A • N/A • https://ec.europa.eu/europeaid/gender-equality-and-womens-empowerment-transforming-lives-girls-and-women-through-eu-external_en • N/A • https://www.who.int/countries/tjk/en/ • https://www.who.int/health_financing/documents/ • health-expenditure-report-2018/en/

[12] NB These will only be available in English

Procurement	• Procurement Process Resource Guide (WHO)(2011); • Public Procurement (WHO)(2016); • Drug Pricing Survey (2005); • Essential Medicines (2014); • Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis (WHO); • Model List of Essential Medicines (WHO) (2019)	• http://who.int/medicinedocs/en/d/Js21563en; • http://www.euro.who.int/en/publications/abstracts/challenges-and-opportunities-in-improving-access-to-medicines-through-efficient-public-procurement-in-the-who-european-region-2016 • https://haiweb.org/wp-content/uploads/2015/07/ Oceania-Report-Pricing-Surveys.pdf • https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0087576 • https://www.ncbi.nlm.nih.gov/pubmed/19042012 • https://www.who.int/medicines/publications/essentialmedicines/en/
Medical Stores Management	• Health Stores Manual – Uganda (2012); • Inventory Management Case Study – Indonesia (2013); • Good Distribution Practice 2010 (WHO); • Prescribed Drug Use in USA (2019) - NCHS	• http://www.health.go.ug/docs/MOMHSM_2012.pdf • http://article.sapub.org/ 10.5923.j.mm.20130302.10.html • https://www.who.int/medicines/areas/quality_safety/quality_assurance/GoodDistributionPracticesTRS957Annex5.pdf • https://www.cdc.gov/nchs/products/databriefs/db334.htm
Miscellaneous	•	•

Annex #4: Health Spending as a Percentage of GDP: World Bank

This takes into account the whole spending of the health sector – not just that of government.

Table x: Health Spending as a Percentage of GDP

Year	Health Spending as a % of GDP
2006	5.033
2007	5.541
2008	5.912
2009	5.856
2010	5.735
2011	5.860
2012	5.982
2013	6.339
2014	6.727
2015	6.854
2016	6.998

Annex #5: Improving the Supply of Pharmaceuticals and Pharmaceutical Activities

The following priorities are identified for improving the quality and decreasing the cost of medical services, through improving management of the pharmaceutical sector and providing accessibility of inexpensive quality essential Pharmaceuticals by 2020: improving the Pharmaceutical quality assurance system; taking measures on rational use of Pharmaceuticals; and ensuring the availability of inexpensive Pharmaceuticals.

In order to achieve the goals and priorities set out, work should be carried out in the following directions:

- **Improving Pharmaceutical Quality Assurance:**
    - raise efficiency of state control in the area of Pharmaceutical sales to decrease and prevent fake and unregistered Pharmaceuticals from entering the pharmaceutical market;
    - review the existing Pharmaceutical registration system for greater transparency of the registration process and change the registration requirements. The registration system should encourage registration and re-registration of proven quality Pharmaceuticals for the essential Pharmaceuticals list;
    - introduction of international standards (Good Laboratory Practice (GLP), Good Clinical Practice (GCP), Good Manufacturing Practice (GMP)) into domestic health care and pharmacy;
    - improve physical infrastructure of Republican and Oblast Laboratories on Pharmaceuticals and Medical Commodities Quality Control, State Agencies on Pharmaceutical Control, as well as establishing Immuno-biological, toxicological and radiologic laboratories within these structures; and
    - organize training of specialists responsible for assuring quality of Pharmaceuticals according to international standards.

- **Taking Measure on Rational use of Pharmaceuticals:**
    - eliminate overprescribing by doctors through educational training programs and introducing elements of rational use of Pharmaceutical into the curriculum of pre- and post-graduate education, as well as improving the regulatory framework;
    - review and introduce current clinical practice guidelines and essential Pharmaceuticals formulary;
    - increase access to modern and accurate information on Pharmaceuticals;
    - re-establish the dispensing of Pharmaceuticals on prescription and restore the role of hospital pharmacists as medical assistants in primary health care facilities;
    - strengthen efficiency of control of Pharmaceutical advertising and take measures on regulation in the area of Pharmaceutical sales; and

- conduct monitoring of the side effects of Pharmaceuticals and develop methods of information distribution on issues of safety and efficiency in Pharmaceuticals use; and
- conduct research on use of Pharmaceuticals and regulation of pharmaceutical activity.

- **Assuring Availability of Inexpensive Pharmaceuticals:**
  - secure equal physical and economic access for the public to essential Pharmaceuticals;
  - raise efficiency of public Pharmaceutical procurement through improving respective regulatory framework and take steps on decreasing the price of Pharmaceuticals;
  - conduct monitoring and analysis of prices for Pharmaceuticals, decrease their prices and costs to the public for treatment;
  - develop pricing mechanism promoting sale of quality and inexpensive Pharmaceuticals;
  - prepare a list of Pharmaceuticals to introduce into the BBP and national programs for the most common diseases based on:
    - analysis of clinical and cost efficiency;
    - evidence-based medicine;
    - and review of the existing practice of privileged dispensing of Pharmaceuticals;
  - regulate promotion of Pharmaceuticals in the market by pharmaceutical companies;
  - strengthen activity of Republican Centre for Pharmaceutical Procurement and set proper procurement of quality generic and essential Pharmaceuticals at low prices from reliable suppliers; and
  - attract private pharmacies to resolve the issue of pharmaceuticals supply.

Annex #6: Extract from WHO Model List of Approved Medicines (2019)

1. Anaesthetics, Pre-operative Medicines and Medical Gases	
1.1 General Anaesthetics and Oxygen	
1.1.1 Inhalational Medicines	
Halothane	Inhalation
Isoflurane	Inhalation
Nitrous Oxide	Inhalation
Oxygen	Inhalation (medical gas)
1.1.2 Injectable Medicines	
Ketamine	Injection: 50mg (as hydrochloride}/mL in 10mL vial
Propofol*	Injection: 10mg/mL; 20mg/mL *Thiopental may be used as an alternative depending on local availability and cost
2. Local Anaesthetics	
Bupivacaine	Injection: 0.25%; 0.5% hydrochloride in vial Injection for Spinal Anaesthesia: 5% (hydrochloride) in 4ml ampoules to be mixed with 7.5% glucose solution
Lidocaine	Injection: 1%; 2% hydrochloride in vial Injection for Spinal Anaesthesia: 5% (hydrochloride) in 2ml ampoules to be mixed with 7.5% glucose solution
Lidocaine + Epinephrine (Adrenaline)	Dental Cartridge: 2% (hydrochloride) + epinephrine 1:200 000 in vial
Complementary List	
Epinephrine	Injection: 30mg (hydrochloride)/mL in 1mL ampoule (For use in spinal anaesthesia during delivery to prevent hypertension.)
Atropine	Injection: 1mg (sulphate) in 1mL ampoule
Midazolam	Injection: 1mg/mL Oral Liquid: 2mg/mL Tablet: 7.5mg; 15mg
Morphine	Injection: 10mg (sulphate or hydrochloride) in 1mL ampoule

4. Medical Gases	
Oxygen*	Inhalation For use in the management of hypoxaemia *No more than 30% oxygen should be used to initiate resuscitation of neonates less than, or equal to, 32 weeks of gestation

Annex #7: Good Practice in Budget Preparation

The table below indicates the stages through which a government should go when preparing its annual budget. Areas relating to a specific ministry (e.g. MoHSP) are highlighted in yellow.

Table: Budget Preparation Framework

Stage	Title	Outline
1	Prioritisation Stage	The political executive should determine the broad medium-term policy and spending priorities based on the Government's social, economic and developmental priorities.
2	Review of the macroeconomic and fiscal framework	A technical analysis of the current and likely future macro-economic and socio-economic framework for the (MTEF) budget period. This would also take into account the Budget Revision (re-balancing) process which should take place in mid-year.
3	Ascertain the total of revenue available	Partially on the basis of Stage 2 and partially on the basis of detailed discussions with donors and the Revenue Authorities, ascertain the total spending ceiling for the budget round.
4	Budget Allocation process (recommendation)	Ideally by means of a Parliamentary Public Expenditure Committee (PEC) produce initial spending allocation by ministry, sector etc.
5	Medium Term Budget Policy Statement	Based on Stages 1 and 4, the government's broad medium-term policy and spending plans are considered by Cabinet and tabled before Parliament.
6	Send budget circular to each line ministry	Each ministry is sent a budget circular detailing the criteria to be used in preparing their initial draft estimate; the ceiling to which they should adhere and the format to be used for their submissions.
7	Line ministries submit budget requests	Based on their plans and the budget circular, each ministry, department or agency responsible for its own budget should draft in accordance with the MoF's directions.
8	Review and negotiations between the MINECOFIN and	If, as will usually be the case, the ministries submission exceeds the amount available there will be discussions to resolve the issue. MoF will have a

	individual line ministry	small amount of extra funds it can release if a ministry makes a good case. If cuts are necessary they must be "real" (e.g. cutting a service; closing an office) and not simply allocating inadequate resources for all proposed activities.
9	Budget Allocation process (Decision stage)	Based on the results of Stage 8, the final spending allocation by ministry, sector etc. is determined.
10	Drafting of the Final Budget and Budget Law	The final budget and budget law are drafted.
11	Budget proposal is submitted to Parliament	The budget law is submitted to Parliament.
12	Budget is approved by Parliament	The budget law, in its original form, or as amended becomes law.
13	Budget is published and spending units informed of their allocation for the year.	Budget is gazetted and published. It should be readily available to the public and posted on the ministry's web site