Financial accounting in the NHS

Anthony Cook

This is the fifth in a series of articles dealing with issues arising as clinical practitioners increasingly take on managerial roles. The series is edited by Jenny Simpson

Just as the NHS is changing, so is the world of finance and financial management within it. Indeed, although recent changes seem to be particularly far reaching, the process of change has been with us since at least the NHS reorganisation in 1974.

To understand recent changes in financial management within the NHS one should first of all understand the distinction between financial accounting and management accounting.

Financial accounting

Financial accounting (also sometimes known as stewardship accounting) is the process whereby any organisation needs to have systems in place simply to enable transactions to take place. Wages and salaries have to be paid, supplies (such as drugs) or services (such as electricity) have to be bought, and income has to be collected from customers. All of these transactions have to be conducted properly. In the case of paying salaries, for example, this means not only paying the right salary to the right employee at the right time but also making the right deductions for income tax, national insurance, and pensions contributions; remitting that money to the appropriate authorities; and maintaining the necessary records. In due course these records are summarised to produce (usually) annual accounts. Only in a few comparatively minor respects are the principles of financial accounting any different in the NHS from any other large organisation.

Historically, modern financial accounting grew out of the industrial revolution of the nineteenth century. Large scale industrial enterprises could be created only with substantial inputs of capital. This in turn required investors to be found and persuaded to part with their money. They in their turn expected a return on their investment and also an account of how the organisation had fared over the previous year. The format of modern financial accounts has therefore grown from the separation of the ownership of an organisation (the investors or shareholders) from the entrepreneurial management of the organisation. The financial accounts represent the "accounts" that the managers are required to give to the owners of how their resources have been deployed.

Management accounting

Management accounting, in contrast, is concerned with producing financial information to help the management of the organisation. This information

can be required for decision making, for producing financial or business plans, or for facilitating financial control. Management accounting is different in nature from financial accounting and the key differences are summarised in the box.

The question is not whether management accounting is better or more important than financial accounting, or vice versa. Rather, every organisation must have its financial accounting—perhaps as its basic building blocks—but its management accounting will grow out of its financial accounting. In large organisations both are essential.

Before the *Working for Patients* white paper the changes which occurred in the NHS during the 1970s and 1980s were primarily concerned with the development of management accounting. Following the creation of the internal market the changes are impacting on financial accounting in the NHS. In due course the pendulum will swing back towards management accounting.

For the time being, however, the emphasis is on developments affecting financial accounting, and nowhere are the changes more in evidence than in the accounting regime of NHS trusts.

ACCOUNTING WITHIN TRUSTS

NHS trusts, of course, are an integral part of the newly reorganised NHS. In the internal market of purchasers and providers they are providers: hospital and community units given a legal status in their own right, independent of the managerial control of their local district health authority, and competing with other providers to secure business from their local purchasers. They are being pitched into a deliberately commercial environment, and they must behave in a commercial way. The accounting regime is similarly commercial and displays many of the features of the accounts of private sector limited companies.

DOUBLE ENTRY BOOK KEEPING

Let us begin at the beginning with double entry book keeping. Its principles are commonly attributed to an Italian merchant, Paciolo, in the fifteenth century. He realised that there are two sides to every transaction and therefore there should be two entries in the books of accounts to record it. Thus, if I go into my local newsagent to buy a magazine, on the one hand I come out clutching my copy of *Management Today*; on the other hand, I have parted with my money. If I am recording the transaction in my own books of account I have purchased the magazine (the debit entry) and I have reduced my holding of cash (the credit entry). Every transaction in every organisation involves two entries—the debits and the credits. And at the end of each accounting period the first test of the accuracy of the entries is to see that all the debits add up to the same total as all the credits. This is the trial balance.

Once the trial balance is completed we can move on to the end of year accounts. Double entry books in fact give two end of year accounts. Firstly, there is what is known in a commercial undertaking as the profit and loss account or in a not for profit organisation the income and expenditure account. Secondly, there is the balance sheet.

Differences between financial and management accounts

	Financial accounts	Management accounts
Accounts to:	The owners of the organisation	The management of the organisation
Produced:	Annually	Frequently
Detail:	Summary	May be highly detailed
Format:	Specified	Left to local discretion
Time perspective:	Historical	Forward looking

Anthony Cook Associates,
"Copland," Field Lane,
Stourbridge DY8 2JQ
Anthony Cook, financial
management consultant

BMJ 1995;310:312-6

INCOME AND EXPENDITURE ACCOUNT AND BALANCE SHEET

The income and expenditure account, as its name implies, summarises the income received and the expenditure incurred over a period. Hence, it will usually read "Income and expenditure account for the year ended 31 March 19XX." In any organisation the income and expenditure account will look something like that shown in the box below.

Typical income and expenditure account		
Income and expenditure account for the year ended 31 March 1994		
	£000s	£000s
INCOME		
Contract income		12 137
LESS EXPENDITURE		
Materials	4109	
Wages and salaries	4983	
Services	1794	
Depreciation	1025	
		11 911
SURPLUS FOR YEAR		226

In contrast the balance sheet shows the situation at a particular moment—technically probably midnight on the last day of the financial year. Hence it is usually headed "Balance sheet as at 31 March 19XX." There are two sides to the balance sheet—which by definition, balance. Traditionally, they used to be shown side by side but nowadays are usually in the "narrative" format showing the capital employed in the business and how that capital has been funded.

Within the capital employed there will be sections for the fixed assets: the value of land, buildings, equipment, and motor vehicles owned by the organisation. The current assets will show the value of stocks of finished goods, work in progress, and raw materials; debtors—the money owed to the organisation by its customers; and cash and bank accounts. The current liabilities include its creditors (the money the organisation owes to its suppliers) and bank overdrafts and other short term loans. The current assets less the current liabilities give the total of the working capital—that capital which every business must have but which is necessarily tied up in reusable or recirculating assets. Then the total of the fixed assets, plus working capital, gives the total capital employed in the organisation.

That total is balanced by the sources of funding. There can be three sources of funding: (a) capital invested by the shareholders of the organisation (share capital); (b) any long term borrowings of the organisation (usually in the form of debentures, which are loans secured on the assets); and (c) the accumulated retained surpluses or losses from the operations of the organisation (accumulated reserves).

The balance sheet in our hypothetical organisation may look something like that in the box (right). At two points there are specific links between the income and expenditure account and the balance sheet. The first is the figure for "accumulated reserves" in the balance sheet. This is where the surplus from the income and expenditure account will be added (or deducted if there is a loss) and is the reason why the balance sheet always balances. Hence, our example income and expenditure account shows that a surplus of £226 000 was earned last year. In the balance sheet this might mean that there is an extra £226 000 cash in the bank. More probably, however, it is tied up in the form of additional fixed assets or stocks of raw materials and work in progress. Wherever it is, the capital employed has been enhanced by that £226 000. However, the

balance sheet does balance because the accumulated reserves figure has also increased by £226 000 from £3 539 000 in the previous year's balance sheet to £3 765 000.

The second point at which there is a specific and obvious link between the balance sheet and the income and expenditure account is in respect of accounting for fixed assets. The value of the organisation's fixed assets is shown on the balance sheet. However, fixed assets wear out and this wear and tear is shown on the income and expenditure accounts as depreciation. There are several variants of accounting for fixed assets and depreciation, but the most straightforward is the straight line method of depreciation on historical cost basis. Let us assume, for example, that the organisation buys a piece of equipment for £10 000 on 31 March year 1. In the balance sheet drawn up at midnight on that date that item will appear as £10 000. Let us also assume that the item is expected to have a working life of 10 years. On the straight line method, therefore, there will be an annual depreciation figure of £1000. Thus, the depreciation figure in the income and expenditure account for year 2 will include £1000 for this item and the item will appear in the balance sheet at 31 March year 2 at a written down value of £9000. Similarly, the income and expenditure account for year 3 will include £1000 depreciation on this item and the balance sheet at 31 March year 3 will include the item at a written down value of £8000.

Accruals accounting versus cash flow accounting

Thus, we have our two basic statements of account produced from our double entry book keeping: the income and expenditure account and the balance sheet. Normally these will have been prepared in accord with what accountants refer to as the accruals concept of accounting. Under the accruals concept an organisation will endeavour to relate income to the accounting period in which it has actually been earned—that is, when it has accrued—and expenditure to the accounting period in which resources have actually been consumed. This, of course, is different from when the

Balance sheet as at 31 March 1994		
CAPITAL EMPLOYED	£000s	£000s
<i>Fixed assets</i>		
Land and buildings		5 936
Equipment and vehicles		6 473
		12 409
<i>Current assets</i>		
Debtors	1759	
Stocks	2107	
Cash at bank	524	
	4390	
<i>Less current liabilities</i>		
Creditors	1034	
<i>Working capital</i>		3 356
TOTAL CAPITAL EMPLOYED		15 765
REPRESENTED BY		
Issued share capital		8 000
Plus accumulated reserves		3 765
		11 765
Long term loans and debentures		4 000
		15 765

payments from customers are actually received or when bills are actually paid. If we are thinking in these terms we are thinking in cash terms.

To illustrate the differences let us look at one or two examples. On the income side, if an organisation receives a deposit on 31 March year 1 for work to be done during the next financial year, then—accounting on an accruals basis—that will appear on the balance sheet at 31 March under current liabilities—in effect as work owing at that moment to its customers. Accounting on a cash basis, of course, would appear as cash received in year 1. Alternatively, work might be completed during year 1, but payment may not be received from the customers until year 2. On an accruals basis of accounting the income and expenditure accounts for year 1 will show that as income earned and the balance sheet at 31 March year 1 will include that income within the organisation's debtors. When accounts are on a cash basis the item does not appear until year 2.

We have the same effects on the expenditure side. A batch of raw materials bought and paid for but not consumed before 31 March year 1 will, on an accruals basis, not appear as expenditure during year 1 but will be included in the value of stocks in the balance sheet at that date. On a cash basis it does appear as year 1 expenditure. In contrast, electricity consumed by an organisation during March should appear on an accruals basis as March expenditure (and in the 31 March balance sheet as a current liability), even though it will not be paid for until the next financial year—when of course, it would appear on a cash basis.

“Management accounting is different in nature from financial accounting and . . . will grow out of an organisation's financial accounting.”

While accountants will vehemently argue for the accruals basis, the director of finance must nevertheless monitor the cash position. The world of commerce abounds with examples of organisations which have gone out of business even though they are showing healthy accruals profits. Too much of their money has become tied up in new plant and machinery or stocks of materials or is still owed to them by their debtors, and they have simply run out of cash to pay their creditors. The point at which a business actually ceases to exist is when it can no longer pay its bills. Hence the need to monitor the cash position.

FUNDS FLOW STATEMENT

This introduces the third of our end of year financial statements: the funds flow statement (historically known as the source and application of funds statement). This is a statement which shows where the cash has come from and where it has gone to. In its simplest form it can be reconciled to the income and expenditure account and the opening and closing balance sheets for the year. It might start with the operating surplus for the year and then add on the depreciation (which is not a cash item—hence if an organisation makes a £10 000 profit after charging £2000 depreciation the actual cash inflow is £12 000) and then show movements in working capital (increases or decreases in debtors, creditors, and stocks) together with actual capital expenditure and cash movements as further loans are taken out or repaid.

In our hypothetical organisation a relatively healthy funds flow statement for the year might look some-

Typical funds flow statement—when cash flow is healthy

Funds flow statement at 31 March 1994

	£000s	£000s
Operating surplus		226
Plus depreciation		1025
		<hr/> 1251
<i>Movements in working capital</i>		
Increase in debtors	207	
Increase in stocks	321	
	<hr/> 528	
Less increase in creditors	157	
	<hr/> 371	
		<hr/> 880
Less capital expenditure		1550
		<hr/> -670
Plus increase in long term loans		750
		<hr/> 80
NET INCREASE IN CASH		<hr/>

thing like that in the box above. Thus while the closing balance sheet at 31 March 1994 shows cash at bank of £524 000 the opening balance sheet at 31 March 1993 would have shown a cash figure of £444 000.

If the business, however, has failed adequately to control its working capital movements and has negotiated an increase in its long term loans of only £500 000 then we would have an alternative funds flow statement (box below). This in turn would give us a new closing balance (notwithstanding that the business has earned the same accruals profit) (see box opposite).

Our organisation is now in trouble. It has a bank overdraft of £168 000; it would expect to pay its creditors about £600 000 in the coming month; and it should pay wages and salaries of more than £400 000. If it diligently pursues its debtors it might pull in £1m. However, almost certainly the director of finance will need to seek additional short term finance from the bank and will probably also be looking to secure additional long term funds. Accordingly, to monitor

Funds flow statement—when cash flow is inadequate

Funds flow statement at 31 March 1994

	£000s	£000s
Operating surplus		226
Plus depreciation		1025
		<hr/> 1251
<i>Movement in working capital</i>		
Increase in debtors	429	
Increase in stocks	457	
	<hr/> 886	
Less increase in creditors	73	
	<hr/> 813	
		<hr/> 438
Less capital expenditure		1550
		<hr/> -1112
Plus increase in long term loans		500
		<hr/> -612
NET INCREASE IN CASH		<hr/>

Balance sheet relating to poor funds flow statement

Balance sheet as at 31 March 1994

	£000s	£000s
CAPITAL EMPLOYED		
<i>Fixed assets</i>		
Land and buildings		5 936
Equipment and vehicles		6 473
		<hr/>
		12 409
<i>Current assets</i>		
Debtors	1981	
Stocks	2243	
	<hr/>	
	4224	
<i>Less current liabilities</i>		
Creditors	1034	
Overdraft	168	
	<hr/>	
	1118	
<i>Working capital</i>		3 106
TOTAL CAPITAL EMPLOYED		<hr/>
		15 515
 REPRESENTED BY		
Issued share capital		8 000
Plus accumulated reserves		<hr/>
		3 765
		<hr/>
		11 765
 Long term loans and debentures		<hr/>
		3 750
		<hr/>
		15 515

such movements the funds flow statement is seen as an essential part of the year end accounts.

Applying financial principles

These basic principles of the year end accounting regime apply in most large organisations, and are specified under the Companies Acts. How are these principles applied in NHS trusts? In fact, there is very little difference from the way they are applied in other organisations. NHS trusts now produce an income and expenditure account and a balance sheet (both on the accruals basis of accounting) and a funds flow statement. Increasingly, their annual reports and accounts are following a similar glossy format to those produced by many public limited companies.

TRUSTS AND CAPITAL CHARGES

What is of interest is the way the accounts are effectively being monitored and directed by the NHS Executive. Following the publication of the *Working For Patients* white paper the initial impressions were that NHS trusts were to be dynamic, free wheeling entrepreneurial organisations vigorously competing with one another in the NHS internal market and able to develop their services in accord with their own commercial judgment.

In fact, it is now clear that NHS trusts are subject to very tight financial regulation. Before the secretary of state's revision of the "intermediate tier" the NHS Executive had established six formal outposts whose remit was to monitor the activities of NHS trusts within their zone. Each trust has to produce an annual business plan and is expected to deliver actual results in accord with that plan. To understand how this is done, we need to look at some of the details of the new NHS trust regimes.

Firstly, it is only since 1 April 1991 that the NHS has had full balance sheets. It was one of the requirements

of the reforms that asset registers were to be created showing the value for each authority or trust of its fixed assets. In parallel with the asset registers we have had the introduction of capital charges—the NHS equivalent of depreciation. However, NHS practice differs from commercial practice in that the capital charges include the depreciation of fixed assets plus a 6% return on their capital value (this applies both within NHS trusts and directly managed units).

Secondly, if we look at the funding side of the balance sheet, we will find that it is split (in most cases originally on a 50/50 basis) between public dividend capital and interest bearing debt. These correspond to, respectively, the issued share capital of a commercial organisation (with, of course, the government being the only shareholder) and the long term loans and debentures—also owing to the government. (In fact trusts may borrow money from other sources but only within the latitude provided by their external funding limit (see below).)

The financial duties imposed on an NHS trust are threefold: (a) to deliver 6% return on its capital employed; (b) to balance its budget; and (c) to live within its external funding limit. These duties apply, respectively, to its balance sheet, its income and expenditure account, and its funds flow statement.

"Trusts are subject to very tight monitoring and direction... through controls applied to the three traditional statements of account."

Firstly, the 6% return on capital employed (taken from the balance sheet) is to be paid by the trust as interest on the interest bearing debt to the Department of Health. Secondly, the income and expenditure account is expected to be in balance after charging capital charges—including, of course, the 6% return on capital.

The external funding limit is set each financial year by the NHS Executive outpost in the light of the trust's proposed funds flow statement. It controls the level of capital expenditure the trust can undertake. If a trust has a zero external funding limit and its income and expenditure account is in balance—after charging depreciation—and it is not expecting any substantial movements in working capital, then it can undertake capital expenditure to the same amount as its depreciation. If it has a positive external funding limit then it can undertake more capital expenditure. Much to their horror some trusts were given negative external funding limits in the first couple of years of the regime.

Key point summary

- A distinction needs to be drawn between financial accounting and management accounting
- Financial accounting is the process whereby systems need to be set up in an organisation to allow financial transactions (such as payment of salaries and purchase of services) to take place: it does not produce information to help in the management of that organisation
- The development of trusts as a result of the NHS reforms means that accounting practice is becoming more and more commercially oriented, with the emphasis, for the moment, on financial accounting

These were those trusts that were deemed to have land and buildings surplus to their requirements and were expected to dispose of them.

Accordingly, it is now apparent that trusts are actually subject to very tight monitoring and direction. This is effected through controls applied to the three traditional statements of account: the balance sheet; the income and expenditure account; and the funds flow statement. In addition, there exists the potential for a further tightening of the screw in that if a trust

turns out to be particularly profitable—earning over and above the 6% return on capital employed—it can be required to pay dividends on its public dividend capital.

The trust regime is a good illustration of how NHS accounting practice is increasingly following what has been common practice in the world of industry and commerce. It is probably the major item currently on the agenda of NHS financial management and it is, of course, an issue of financial accounting.

Controversies in Management

Should carotid endarterectomy be purchased?

Treatment avoids much morbidity

Roger N Baird

This is the nineteenth in a series of articles examining some of the difficult decisions that arise in medicine

A neurologist writing in 1978 on the treatment he would want if he had a transient ischaemic attack advised that the blood pressure should be checked and investigations instituted to prevent further ischaemic attacks which might culminate in stroke or death.¹ The article did not mention health gain and cost, because in 1978 disease based healthcare purchasing was confined to a few underexploited treatments. Health purchasers today, however, have to judge the value of carotid endarterectomy against other attempts to reduce the burden of morbidity from stroke. These include screening for and control of hypertension, antiplatelet therapy using aspirin, and rehabilitation and caring for people who have had a stroke.

Scientific evaluation

The prognosis of transient ischaemic attacks was recently studied in 184 patients from 10 group practices in Oxfordshire, and the risk of stroke was 11.6% during the first year, rising to 29.3% within five years.² Carotid endarterectomy has the greatest benefit for patients with transient ischaemic attacks of the brain and eye who have a greater than 70% stenosis at the origin of the relevant internal carotid artery in the neck. Two recent large controlled trials have shown that stroke and death rates were reduced in patients having surgery (figure); in a European study there was a sixfold reduction at three years with 2200 patients randomised³ and in a North American study of 1000 patients there was a tenfold reduction at 18 months.⁴ Other indications for surgical clearance of a severe carotid stenosis include crescendo transient ischaemic attacks, recovered transient ischaemic attacks lasting

more than a day, chronic retinal ischaemia, retinal infarction, and non-disabling stroke. In the past diagnostic arteriography has added a small extra risk. The risk has lately been lessened by technical improvements in catheters and the use of non-ionic contrast material. Today the best centres seldom use carotid arteriography. Clinicians rely on colour Duplex ultrasonography of the neck and computed tomography of the head to clinch the diagnosis, augmented by magnetic angiography when interpretation is difficult. Conditions giving rise to uncertainty include loops of the carotid artery and failure to detect a fine jet of blood by Doppler when the image shows a tight stenosis.

Efforts are continuing to identify better patient populations and better techniques. Atheromatous plaques with a heterogeneous ultrasonic appearance seem to carry a greater risk of stroke than homogeneous fibrous strictures. Trials have shown that closing the carotid arteriotomy around a gusset-like patch of saphenous vein or prosthetic material can improve the early results in patients with extensive atheroma and in those with small arteries, particularly women, as well as reducing the rate of restenosis.

Audit

Up to date data on outcomes after carotid endarterectomy should be available to surgeons and, through them, to patients, general practitioners, and other purchasers, either by publication⁵ or by validated audit. This cannot happen without each surgeon's commitment to accurate and complete records, including clinical indications, operative technique, and outcome. The risks should not exceed those set out by the committee on carotid surgery standards of the American Heart Association's Stroke Council. These standards are a combined perioperative morbidity and mortality of 5% where the indication is transient ischaemic attack, rising to 7% in patients who have had minor stroke and are having surgery to prevent severe strokes.⁶ These targets are unlikely to be achieved by surgeons whose annual carotid workload is in single figures. It is generally agreed that a successful endarterectomy confers excellent protection and the post-operative risk of stroke is only about 1% a year.

Historical background

From the above data it is unclear why doubts have been raised about the efficacy of the operation. The

Life table analysis showing numbers of ipsilateral ischaemic strokes in endarterectomy and medically treated group.¹ Absolute difference at three years was 14% (SD 2.9)

Department of Surgery,
Bristol Royal Infirmary
Roger N Baird, consultant
surgeon

BMJ 1995;310:316-8