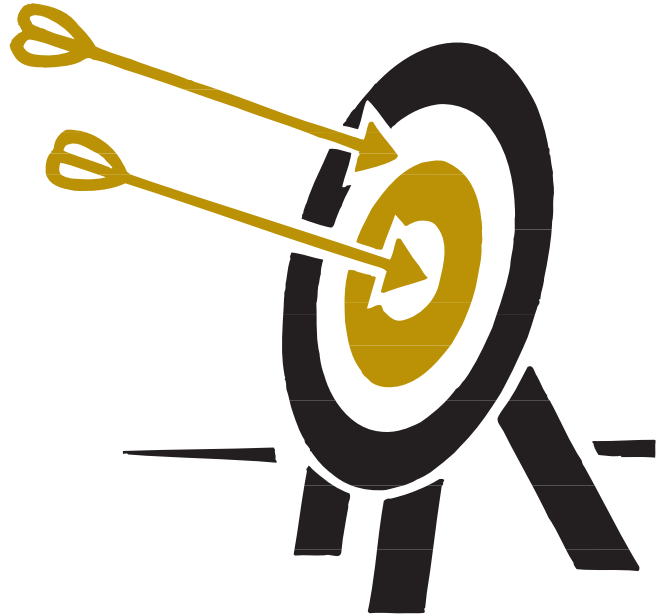


on **target**
the practice
of performance
indicators



AUDIT
COMMISSION

Promoting the best use of public money

The Audit Commission promotes the best use of public money by ensuring the proper stewardship of public finances and by helping those responsible for public services to achieve economy, efficiency and effectiveness.

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1. Introduction

1. The introduction of best value in local government, the Performance Assessment Framework (PAF) in the NHS and in social services, the NHS Wales Performance Management Framework (PMF), and Public Service Agreements (PSAs) in central government have emphasised the importance of having good performance indicators (PIs) as part of performance management in the public sector. To complement the national sets of PIs, public sector organisations are expected to set their own PIs and targets, and to monitor and publish their performance.

2. The Commission has extensive experience of developing and using performance indicators. This paper on *The Practice of Performance Indicators* sets out the lessons that have been learnt. It is aimed at helping managers and practitioners in local government, the NHS and central government to develop their own set of balanced and focused indicators. It describes ways to ensure that PIs are robust and well framed.

3. Indicators should be used within a wider framework of performance measurement systems, performance management and overall strategic

management of services. This is described more fully in the Audit Commission paper *Aiming to*

Improve: The Principles of Performance Measurement. These principles are listed in Box A.

BOX A

The six principles of a performance measurement system

- **Clarity of purpose.** It is important to understand who will use information, and how and why the information will be used. Stakeholders with an interest in, or need for, performance information should be identified, and indicators devised which help them make better decisions or answer their questions.
- **Focus.** Performance information should be focused in the first instance on the priorities of the organisation – its core objectives and service areas in need of improvement. This should be complemented by information on day-to-day operations. Organisations should learn how indicators affect behaviour, and build this knowledge into the choice and development of their performance indicators.
- **Alignment.** The performance measurement system should be aligned with the objective-setting and performance review processes of the organisation. There should be links between the performance indicators used by managers for operational purposes, and the indicators used to monitor corporate performance. Managers and staff should understand and accept the validity of corporate or national targets.
- **Balance.** The overall set of indicators should give a balanced picture of the organisation's performance, reflecting the main aspects, including outcomes and the user perspective. The set should also reflect a balance between the cost of collecting the indicator, and the value of the information provided.
- **Regular refinement.** The performance indicators should be kept up to date to meet changing circumstances. A balance should be struck between having consistent information to monitor changes in performance over time, taking advantage of new or improved data, and reflecting current priorities.
- **Robust performance indicators.** The indicators used should be sufficiently robust and intelligible for their intended use. Independent scrutiny, whether internal or external, helps to ensure that the systems for producing the information are sound. Careful, detailed definition is essential; where possible, the data required should be needed for day-to-day management of the services.

Source: Audit Commission

2. The different users and uses of performance indicators

4. A performance measurement system can have a wide range of users, who may use the information in different ways. These different requirements need to be recognised when devising performance indicators. Users of performance information include:

- service users: direct (visitors at the library, passport applicants or patients) and indirect (relatives and parents);
- the general public, including interest groups and the media;
- central government;
- politicians (local and central), local councillors and non-executive directors of trusts and health authorities;
- auditors and inspectors;
- managers at all levels in the organisation; and
- staff.

5. Performance information is not an end in itself. It may be used to:

- **Measure progress towards achieving corporate objectives and targets.** Organisations can use PIs to monitor the achievement of corporate objectives. PIs should be set at an overarching level to monitor achievement of the strategic

objectives, but should also address operational objectives, assessing the performance of day-to-day activities.

- **Promote the accountability of service providers to the public and other stakeholders.** The public and politicians may use PIs to hold organisations accountable. The publication of an organisation's PIs can increase the awareness of consumers and citizens of the level of services they receive, and whether the organisation is living up to its commitments.
- **Compare performance to identify opportunities for improvement.** Performance indicators may also be used to identify opportunities for improvement through comparison both within the organisation over time or between different units or organisations. In recent years, there has been an increase in benchmarking activity in all parts of the public sector. Benchmarking aims to share understanding of how organisations perform, identify which processes explain differences in performance, and where and how improvements

can be made. PIs can be used in this process to identify good performance and problem areas, and to measure the effect of action.

- **Promote service improvement by publicising performance levels.** PIs can be employed to encourage service improvement by using nationally published comparative information to identify whether organisations are performing well or poorly.

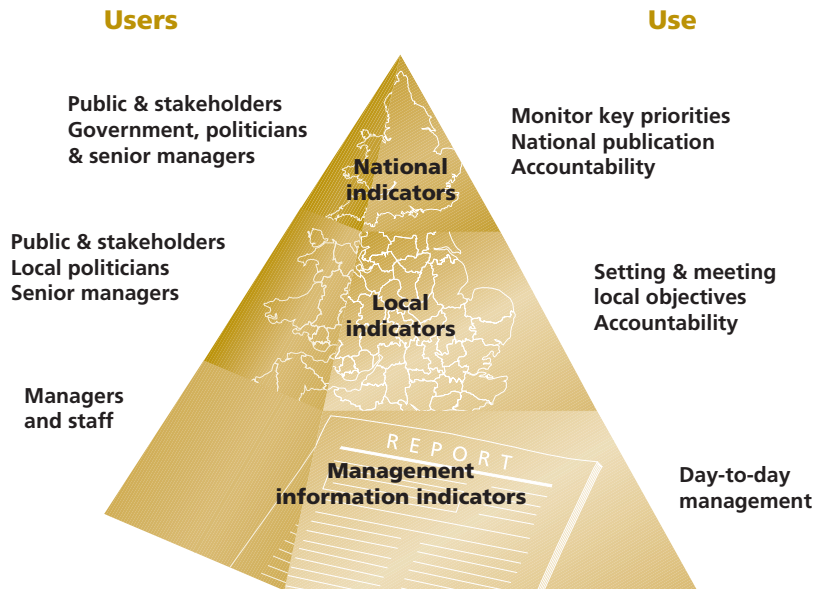
These uses can be seen as forming a continuous process from operational management to national performance indicators [EXHIBIT 1].

6. Nationally prescribed indicators are only a small proportion of all the performance indicators that might be used. Underpinning the national indicators, which reflect national priorities and are intended for national publication, are local performance indicators. These will reflect local objectives, and will be supported by indicators that provide managers with information that allows them to run a particular service effectively. Operational indicators can also be related to personal performance targets for staff and managers, making the link

EXHIBIT 1

The different users and uses of indicators

Indicators should form a coherent set, with operational indicators supporting the publication of local and national indicators.



Source: Audit Commission

from the overall objectives all the way to the individual level.

7. But all users of indicators should remember that the indicators do not provide answers to *why* differences exist but raise questions and suggest *where* problems may exist (acting as a 'can-opener'). A PI is not an end in itself. It is essential that users and producers of PIs share the same expectations of what a performance indicator can be employed for, to avoid the misuse of an indicator.

3. Developing effective performance indicators

8. The saying ‘What gets measured gets done’ illustrates the importance of the right things being measured and inappropriate things being left out. If an organisation does not measure what it values, it will end up valuing what can be measured. The choice of indicators will have a major impact on the operation and direction of the organisation, and knowledge of the factors driving behaviour and influencing performance thus becomes crucial.

9. An organisation tackling the task of developing a suite of performance indicators needs to address two questions:

- what topics should the indicators focus on?; and
- what aspects should be measured?

Focus on the right topics

10. Performance indicators should in the first instance focus on aspects of the service that are important for the organisation. This means that the organisation should be clear about what it is seeking to achieve – its core objectives – and about how it will achieve them. It should also be clear how it will know whether it is achieving its objectives.

11. Performance indicators should focus on the actions and services provided at each level in the organisation to achieve its objectives. High-level indicators will address corporate issues: lower-level indicators will look at operational and day-to-day matters. But organisations should be careful to avoid the common pitfall of measuring that which is easily measured, rather than that which should be measured.

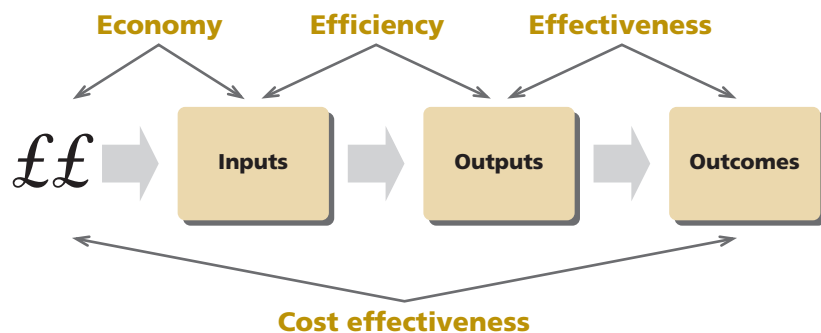
Focus on the right measures

12. It is important to develop a balanced set of indicators that reflect all the aspects of the service. While it is common to look initially at the information that is currently available, this should be reviewed to identify any important gaps. There are several different frameworks that can be used to do this.

EXHIBIT 2

Different aspects of performance

Economy, efficiency and effectiveness link inputs to outcomes.



Source: Audit Commission

The 'Three Es'

13. One common way of developing performance indicators is to use the three dimensions of economy, efficiency and effectiveness [EXHIBIT 2]. These have been central to the Audit Commission's work.

14. The basic measures when constructing the three Es are:

- *cost*: the money spent to acquire the resources;
- *input*: the resources (staff, materials and premises) employed to provide the service;
- *output*: the service provided to the public, for example, in terms of tasks completed; and
- *outcome*: the actual impact and value of the service delivery.

15. The three dimensions of performance are defined as follows:

Economy: 'acquiring human and material resources of the appropriate quality and quantity at the lowest cost' (staff, materials, premises). An example is the cost of buying new books for a library.

Efficiency: 'producing the maximum output for any given set of resource inputs or using the minimum inputs for the required quantity and quality of service provided'. An example is the cost per visit to public libraries.

Effectiveness: 'having the organisation meet the citizens' requirements and having a programme or activity achieve its established goals or intended aims'. An example is 'the percentage of library users who found the book/information they wanted, or reserved it, and were satisfied with the outcome'. Effectiveness is about assessing whether the service is actually achieving what it set out to do.

16. Some organisations add a fourth E, **equality** or equity. This dimension captures the degree to which access to services is equitable, and whether the services are appropriate to the needs of all those who should be able to use them. This has been incorporated in several measurement frameworks (for example, both the NHS Performance Assessment Framework and the set of best value

performance indicators have the category *fair access*).

17. A related approach to ensure a balanced representation of the service is the differentiation between **quality, cost and time** [BOX B]. Cost reflects the financial side of the organisation's activities, quality captures the features of a service and their appropriateness for the user, and the time aspect covers the responsiveness and speed with which services are delivered. Not all stakeholders will find these dimensions equally relevant, but together cost, quality and time can provide a simple way to ensure balanced coverage in relation to a service area. See *Measuring Up*, CIPFA, 1998, for further information.

BOX B

A rounded set of indicators

A balanced set of indicators can be constructed by using cost, time and quality measures.

Example:

- Average speed of processing a new housing benefit claim (timeliness)
- Average cost of a claim (cost)
- Percentage of cases where the calculation of benefit was correct (service quality)

Source: Adapted from Measuring Up, CIPFA, 1998

The balanced scorecard

18. Another approach, originally developed by the private sector, suggests that four perspectives – a ‘**balanced scorecard**’ – are needed in an indicator set to provide a comprehensive view of the performance of an organisation:

- **Service user perspective:** how does the organisation meet customers’ needs and expectations?
- **Internal management perspective:** the identification and monitoring of the key processes by which good quality and effective services are provided.
- **Continuous improvement perspective:** securing continuous learning and improvement processes in systems and people, and thus services.
- **Financial (taxpayer’s) perspective:** how resources are used in an economic and efficient way to achieve the objectives of the organisation.

Besides making sure that the PIs cover these perspectives, it is often helpful to consider whether indicators addressing the following aspects of performance might be appropriate:

- long- and short-term objectives;

- qualitative as well as quantitative performance, for example using checklists to assess how a service is delivered as well as the cost and volume of the service;
- strategic and operational issues;
- process and outcome; and
- the views of the main stakeholder groups.

More information on the balanced scorecard approach can be found in *The Measures of Success: Developing a Balanced Scorecard to Measure Performance*, Accounts Commission, 1998.

Best value performance indicators

19. Another way to structure the measurements of the different aspects of performance has been used by Government in defining the **best value performance indicators:**

- strategic objectives: why the service exists and what it seeks to achieve;
- cost/efficiency: the resources committed to a service, and the efficiency with which they are turned into outputs;
- service delivery outcomes: how well the service is being operated in order to achieve the strategic objectives;

- quality: the quality of the service delivered, explicitly reflecting users’ experience of services; and
- fair access: the ease and equality of access to services.

NHS Performance Assessment Framework

20. The **NHS Performance Assessment Framework** is founded on six areas for which performance indicators have been developed:

- health improvement;
- fair access;
- effective delivery of appropriate healthcare;
- efficiency;
- patient/carer experience; and
- health outcomes of NHS care.

The NHS Wales Performance Management Framework

21. The **NHS Wales Performance Management Framework** lists the following areas:

- fairness;
- effectiveness;
- efficiency;
- responsiveness;
- integration;
- accountability;
- flexibility; and
- promoting independence.

4. Types of indicators

Creating outcome measures

22. Outcome measures are crucial to monitoring the achievement of service objectives. Having determined the objectives, it can, however, be difficult to devise suitable outcome measures, especially in complex areas such as social services and the health service.

23. The 'ripple effect' approach can help to identify links between objectives and outcome measures for a service [EXHIBIT 3]. Outcome measures can be quite difficult to construct, as outcomes may be long term and influenced by various factors. A service could be viewed as a stone tossed into water, creating several ripples of effect around it. The outer ripples reflect the overarching objectives of the service, and the inner ripples the more measurable aspects of the service. This process can be used in two ways. First, it can be used to develop indicators for the objectives of a service area (moving from the outer to the inner circles towards a more and more measurable level). Secondly, the method is also helpful in situations where an outcome measure exists but the links to the overall strategic objectives of a

service need to be established (moving from the inner to the outer circles).

24. Outcome measures – measures of effectiveness – depend on a clear understanding of what the service is seeking to achieve. Economy and efficiency indicators can usually be constructed quite simply by looking at costs and at resource deployment. But to see whether the service is effective means going back to the original problem, and

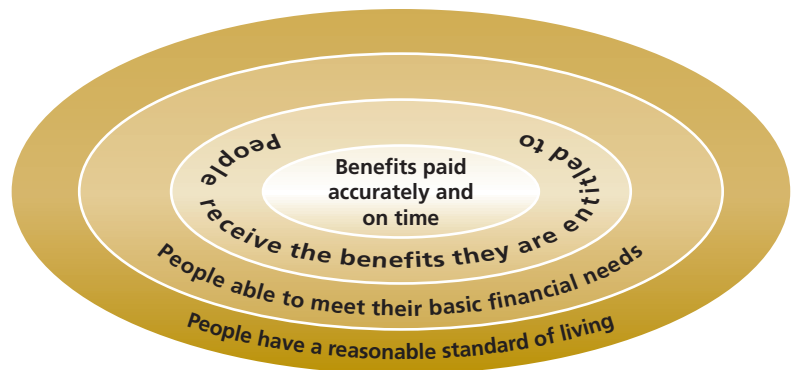
asking 'has the problem been resolved, or the benefit been delivered?' Answering the question may be difficult and require surveys or detailed one-off investigations.

25. Outcomes of services may also take a long time to emerge, such as the impact of services on quality of life. The full benefits of pre-school education may not be apparent until much later in life. It may be possible to monitor the service only by looking at *process measures*,

EXHIBIT 3

The 'ripple effect' approach

A simplified example of how the ripple effect links objectives with outcome measures: the outer circle contains the less measurable outcome elements of the service (people able to have a reasonable standard of living), the inner circle the more measurable indicators and targets (benefits paid accurately and on time).



Source: *A Measure of Success*, Audit Commission, 1999

such as the proportion of children receiving pre-school education, as these can be measured in a more timely way. Process indicators thus measure the activities that will lead to the final results. To use a 'substitute' of this kind depends on evidence that process and outcome are linked or at least on a general consensus that the process contributes to the outcome. Research may be needed to avoid process measures that lead the organisation to the wrong outcomes.

26. One of the most recent developments in relation to outcome measures is the search for *cost-effectiveness* indicators, where links are sought between resources and effectiveness or outcome. The design of such measures is still in its infancy, and will depend on the existence of good outcome measures.

The quality dimension

27. The quality of public services, and the need to improve it, is a matter of concern to all involved. Performance measurement systems therefore need to address the question of quality.

28. Various definitions of quality exist. Some of these focus on the attributes of a service, others on whether the service meets the expectations of the user, and a third group on a mixture of the two.

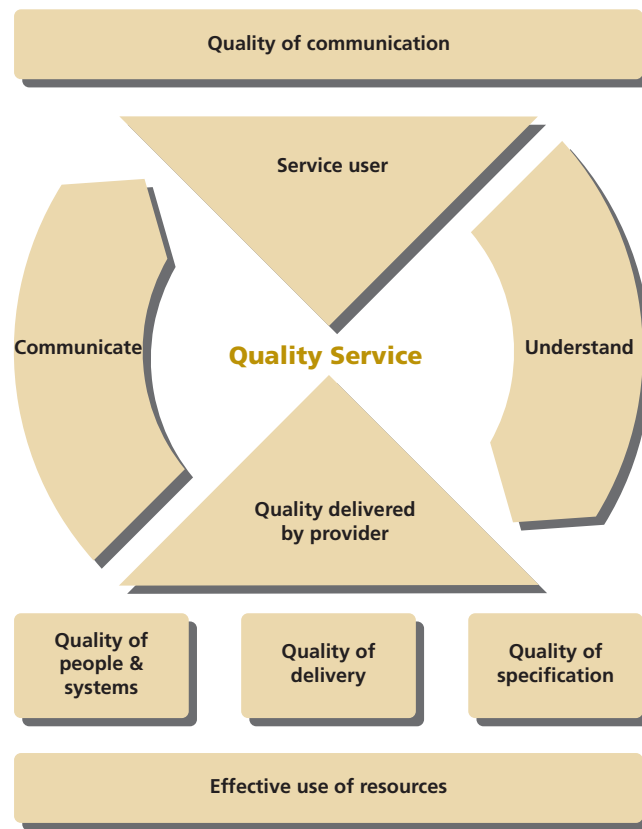
29. The Audit Commission developed a concept of quality in *Putting Quality on the Map*, 1993, to reflect the fact that, in the public sector, financial constraints and the subsidy given to many services may mean that it is not always possible to satisfy users' needs. Additionally,

it is important to bear in mind that quality is multidimensional. Providing a quality service means balancing the different factors of service standards, delivery and costs. The quality map [EXHIBIT 4] incorporates the following elements:

EXHIBIT 4

The quality map

The Commission emphasises the importance of communication as well as consistent delivery of appropriate standards, and economic use of resources.



Source: *Putting Quality on the Map*, Audit Commission, 1993

- **Communication:** the ‘map’ emphasises the importance of understanding users’ priorities and demands, and managing expectations through communicating with service users, advising them of the standards that can be provided within the resources available, how services will be allocated or prioritised and incorporating this knowledge in the standards of service specified. The importance of understanding stakeholders’ priorities is further illustrated in Box C.
 - **Specification:** questions the standards of services that are set. These should be based on balancing users’ needs and wishes with the organisation’s resource constraints.
 - **Delivery:** are the standards delivered reliably?
 - **People & systems:** are staff trained to deliver services effectively, and are they supported by good systems?
 - **Effective use of resources:** does the service make good use of resources?
30. A number of methods can be employed to gauge the quality of a service:
- quantitative indicators;
 - consumer surveys;
 - number of complaints;

BOX C

The importance of understanding stakeholders’ priorities

A metropolitan council sought to improve its housing service by renovating its housing offices, improving the reception areas with carpeting and plants. It also provided facilities such as vending machines, toys for children and toilets. But a survey showed that these improvements had had little effect on users’ satisfaction with the service. Further research showed that the aspects of the service that had been improved were low on users’ priorities. What users most wanted was to be able to see the same officer each time they visited the housing offices. This issue had not been addressed by the council.

Source: Audit Commission

- proxy measures of quality;
- qualitative (yes/no) indicators, for example, checklists of ‘good practice’ processes; and
- professional assessment.

31. **Quantitative indicators** can in some cases be devised to address the quality aspect of a service. An example is the ‘percentage of 999 calls answered within local target response time’. If paramedics reach a heart attack victim quickly it can save a life, and the police arriving at a crime scene quickly can be important in reassuring victims and following up incidents. Quantitative indicators can also address reliability or accuracy issues: for example, ‘the percentage of trains running on time’ and ‘the percentage of trains cancelled’ measure the reliability of the service.

32. When basing a PI on **consumer surveys**, it is important to have a clear understanding of the target group(s) and whether they are reached by the survey. The type of survey should also be considered: will it probe the users’ experience of the service, or will it focus only on their satisfaction with the service? For example, a survey on library services may miss essential information if it focuses only on the users and misses the non-users and the reasons why they do not visit libraries. Some guidance on how to carry out user satisfaction surveys is provided in *Guidance on Methods of Data Collection* published by the Department of the Environment, Transport and the Regions, the Housing Corporation and the National Housing Federation in 2000, with the support of the Local Government Association, Improvement and Development

Agency and the Department of Social Security.

33. The **number of complaints** can be used as an indicator of quality. An increasing number of complaints about a service can be a valuable indicator that problems are developing. However, such an indicator may be unsuitable for comparing an organisation with another due to differences in expectations about service levels. A low level of complaints could indicate that service users have given up due to bad experience with the handling of complaints or that access to the complaints system is difficult.

34. **Proxy measures** are used when more direct measures are either not available or very difficult or expensive to collect. One example is visits to museums, which can act as an indirect measure of quality where comparisons have to be made over time. Another example can be in an area where consumers have a choice of two or more facilities, where the relative usage of each can be taken as an indication of the way that people have balanced the issues of the quality of the facility, its accessibility and cost. If cost and accessibility are similar, the differences in usage can form a proxy measure for the relative quality of each facility. It is, however, important to use such proxy measures with caution.

35. Another tool for addressing quality is the use of **qualitative ('yes/no') indicators**. A qualitative indicator can be developed using a series of 'yes/no' questions to describe quality. For example, the way in which a planning application is handled can have an impact on applicants' perception of service quality. 'Do you provide pre-application discussions with potential applicants on request?', 'Do you have a publicised charter which sets targets for handling the different stages of the development control process?', and 'Do you monitor your performance against these targets?' cover processes that have been found to affect users' perception of quality. By creating such checklists of 'good practice' processes, important quality issues can be captured.

36. Sometimes people may not have an explicit view of what they actually want from a service or what it is reasonable to expect. For example, though patients will be able to judge whether they feel better or not after a treatment, it may be difficult for them to determine whether the treatment could have been better. In such cases, it might be relevant to base quality standards on **professional assessment and inspection**.

37. In other cases, the expectations of individual citizens may differ from society's expectations, because

there is a public benefit beyond the individual. It has been argued that in these cases 'objective measures' of the 'right' level of quality should be established based on expert/professional opinion. But understanding services from the users' perspective and developing user-focused indicators should never be overlooked, and professional assessment should be used in conjunction with user-focused indicators.

Cross-cutting indicators

38. Some services can be significantly influenced by several agencies. Indicators that measure the collective performance of all the agencies are referred to as 'cross-cutting' indicators. A well-chosen cross-cutting indicator, which all parties accept as relevant, and which all can influence, can have a powerful effect on improving joint working and achieving better service delivery. In some cases, individual influence can be hard to determine, and all the organisations involved may need to accept 'joint and several' responsibility for improving performance. In other cases, it may be possible to allocate responsibility to individual organisations more precisely.

39. An example of an issue that involves several agencies is the need to reduce and prevent crime by young people. A number of service

providers need to work together to achieve results: schools, the police, housing, social services, probation etc. The success of joint working can be addressed by defining an indicator that all parties are able to agree as relevant: the level of re-offending.

40. Vulnerable or elderly patients often have continuing care needs after being discharged from acute hospital care in order to resume independent life at home. Early discharge avoids bed blocking but requires good discharge planning, with collaboration between the hospital, relatives, community health services and the local authority. An indicator of collaboration could be ‘hospital bed days lost due to delayed discharge’ – the higher the figure, the poorer the collaboration. An indicator of good discharge and appropriate rehabilitation could be ‘the percentage of patients admitted from their home who return to their own home’.

41. An example of a cross-cutting target within the NHS is: ‘to reduce deaths from coronary heart disease and stroke and related diseases in people under 75 by at least two-fifths by 2010’. From this high-level objective, PIs and targets have been set which require co-ordinated action by primary and secondary health care organisations including hospitals and ambulance trusts.

Getting the balance right

42. A single indicator rarely provides enough information on its own to give a comprehensive picture of performance in a service area. Furthermore, it contains the risk of skewing performance if resources are shifted into activities because they are being measured. A single, or limited number of indicators may also give a misleading picture. Organisations need to balance the number of indicators against the cost of collection, and the risks of skewing performance or misleading people. These risks can also be reduced by developing robust performance indicators.



5. Criteria for robust performance indicators

43. There are a number of general characteristics of indicators that can help to ensure that proposed indicators will be useful and effective. The following examples have been chosen to illustrate these characteristics. However, some of the examples showing good practice on the specific characteristic being discussed may have weaknesses when considered against other characteristics.

Relevant

44. Indicators should be relevant to the organisation. One way of helping to ensure the relevance is to relate the performance indicators to the strategic goals and objectives of the organisation or of a specific service area. Such an approach will also limit the risk of setting up PIs because data are available rather than to meet a need in the organisation.

45. Indicators should ideally also be relevant to the people providing the data. The danger is that if an indicator is not seen as relevant, they will not bother to collect the information accurately. Relevance to the user of the PI is also important, but it may not be possible for a single indicator to be relevant to all users due to the

differences in perspectives and interests. One possibility is to conduct a stakeholder analysis and accordingly target the performance information on the various groups and their respective needs.

Relevant

The indicator, 'The average waiting time for a particular operation in a given trust', is relevant to both prospective patients and to hospital managers.

In contrast, the indicator, 'The total number of people on the waiting list for operations in a given trust at the start of each month', is of less use to the prospective patient, who will worry more about the length of time that he or she will wait for an operation. The information can, however, constitute relevant knowledge for senior managers and the trust board members.

Clear definition

46. A PI should have a clear and intelligible definition in order to ensure consistent collection and fair comparison. Vague descriptions can lead to misinterpretation and confusion. Care should be taken to avoid making the definition too complex, so that people have difficulty in collecting the information. Too tight or too broad definitions may also create problems. Definitions that are too

tight may make it difficult for some of the data providers to deliver the information, while definitions that are too broad could allow for a number of different ways of counting what is being measured.

47. Some of the data used to calculate a PI might already be defined and collected by other agencies. Using an existing definition can be helpful in ensuring consistency. Care should also be taken to avoid a definition that is close to, but different from, an existing definition, which could duplicate the effort involved in data collection and lead to confusion.

Clear definition

A key indicator for NHS estate managers to monitor the management of water and sewerage services and thereby contain costs is 'Water consumed per occupied bed day'. Water supplied to hospital sites is metered and therefore easily measured. Occupied bed days is a commonly used statistic in hospitals, collected through a well-defined and well-known method of counting.

The indicator defined as 'Percentage of patients at outpatient clinics seen within 30 minutes of appointment time' will need clarification if it is to be used for comparison between trusts: how do you treat patients who arrive late, since their lateness, often outside the influence of the trust, will make the performance of the organisation look less good? What

about clinics where patients go to have something else done (for example, have an ultrasound scan) before they see a doctor? If such a definition is chosen, because it is relevant to patients, it is important to specify whether latecomers are excluded/included in the data, and whether note should be taken of their other engagements at the trust.

Easy to understand and use

48. It is important that indicators are described in terms that the user of the information will understand, even if the definition itself has to use technical terminology. Indicators focused on the public should avoid management jargon, or abstract concepts, such as using ‘full-time equivalent staff numbers’ in a comparison where ‘staff numbers’ would be more understandable.

Easy to understand and use

The indicator, ‘Percentage of teachers who are female’, is easy for the public to understand. The indicator, ‘full-time equivalent teachers per 1,000 population’, uses jargon that may not be clear to the public.

Comparable

49. Indicators should ideally be comparable on a consistent basis both *between organisations* and *over time*. The first ideal can be difficult to achieve due to differences in data standards, collection methods etc., and will depend on well-thought-out, agreed definitions. The second ideal, comparison over time, is often easier to achieve, as many aspects of a service will not change, or will change only slowly. But also in this case, the way data are measured and collected within an organisation may change even if the service itself does not.

50. An essential aspect of the comparability of performance indicators is the inclusion of the context within which the comparison is taking place. External or internal circumstances can differ to such a degree that comparison is invalid.

51. If indicators are not directly comparable, one possible solution could be to standardise data. For example, numerical ratios can be used to level out demographic differences between areas (like the example mentioned below of spending per person over 75). However, to create such ratios demands good and detailed information for the denominator. An alternative may be to

disaggregate data, to separate the components that can be compared from those that would distort results. As an example, an overall indicator for a trust could be divided into sub-elements, such as particular day care procedures or various cost elements. Decomposing data in such a way may increase the number of indicators but could be necessary to obtain usable comparative data.

Comparable

‘Number of visitors to the authority’s museum(s)’ would be valid on a local basis over time, for example to show the effectiveness of the museum’s promotion activities: are the public making more visits than before? But for inter-authority comparison, such an indicator could be misleading, as the museums involved could vary considerably in size and scope and in the type of area (tourist or residential) they are situated in.

Another example of a PI that might be difficult to use for comparison is ‘Percentage of all procedures carried out as day surgery’. Figures may be more a reflection of different case mixes and definitions of procedures within hospitals rather than of real performance, making comparison misleading.

Contextual information can help make some indicators more useful for comparison. The indicator, ‘The amount spent on “meals on wheels” per head of population’, could be distorted if the area has a high proportion of elderly residents. Using the context information on the numbers of over 75s to calculate the spending on ‘meals on wheels’ per person over 75 would provide a more reasonable comparison.

Verifiable

52. The indicator also needs to be collected and calculated in a way that enables the information and data to be verified. The indicator should allow aggregation and disaggregation of the data so recalculation can take place, and if appropriate a description should be available of the statistical techniques and sampling methods used. The indicator should be based on robust data collection systems, and it should be possible for managers to verify the accuracy of the information and the consistency of the methods used. This stresses the importance of good internal quality controls in different levels of the organisation. External reviews, for example in the form of external audits and inspections, should ideally complement these internal control processes.

53. All indicators should have evidence available, preferably documentary evidence, making it possible to verify them. Documentary evidence can also add weight to a qualitative (yes/no) indicator for which there may be little other evidence.

Verifiable

The indicator, 'Does the council have a policy of allocating a named officer to deal with each planning application?' (a quality issue in processing planning applications), could be taken to refer to an informal policy, achieved some

of the time. Adding the phrase 'whose name is given to applicants when the application is acknowledged' will make it possible to check the documentary evidence, in this case by reviewing a sample of files.

Cost effective

54. Another important criterion is to balance the cost of collecting information with its usefulness. Where possible, an indicator should be based on information already available and linked to existing data collection activities. Managers are likely to have already assessed the costs and benefits of using the PIs for managing their services, so such indicators should inherently be cost effective. When a new indicator is needed it should be designed to minimise the burden on an organisation and its employees of assembling the information. This will almost inevitably involve some degree of trade-off between the costs of collection and analysis of information, and the ideal PI. Obsolete indicators should be discarded to keep the costs of data collection to a minimum.

Unambiguous

55. It should be clear whether an increase in an indicator value represents an improvement or deterioration in service. A change in an indicator should be capable of a clear and unambiguous

interpretation, and indicators should be designed and measured so that improvement in the indicator is possible only through an improvement in the service. Setting a target can often be helpful in reducing ambiguity.

Unambiguous

The information in the indicator, 'The percentage of case notes available at the start of outpatient clinics', is unambiguous: the higher the better.

'The number of frauds detected by an internal audit section' could be interpreted in two ways. A low level of frauds might mean that the authority had been very effective in reducing the incidence of frauds, so there are few to detect. It could equally well mean that the audit section was not effective in detecting fraud, and they were finding only a small proportion of cases.

Attributable

56. Service managers should be able to influence the performance measured by the indicator (that is, it should either be totally within their control or at least open to significant influence). If this is not the case, the incentives for making an effort to improve performance will diminish, and the performance indicators may be regarded as unfair, and discourage staff and managers. Cross-cutting issues can present particular problems, where the need is for managers to accept joint responsibility for performance.

Attributable

The indicator, 'Variance between budget and actual spending', could be a good or bad PI depending on how it is applied. It is a good measure if budgets are devolved to departments and the person responsible for expenditure is also the budget holder and receives the necessary information to control the budget. But if it is used for monitoring without devolving responsibility for budget control then performance cannot be attributable.

Responsive

57. A performance indicator should be responsive to change. An indicator where changes in performance are likely to be too small to register will be of limited use. This can be the case particularly with qualitative (yes/no) indicators, as progress towards achieving a 'yes' is not captured. This problem can sometimes be overcome by using a number of 'yes/no' indicators together to give a picture of progress, or by converting a yes/no indicator to a numerical one by asking 'What proportion of the processes meet the "yes" criterion?'

Responsive

The PI, 'The percentage of staff in departments complying with Investors in People (IIP) standards' or 'The proportion of yes answers to a list of the detailed criteria involved in IIP', would be responsive and enable progress to be identified. By contrast, the indicator, 'Has the organisation achieved IIP status?', is a single yes/no PI, where only a major change in performance (from no to yes) can be tracked.

Avoid perverse incentives

58. When constructing a performance indicator, it is important to consider what behaviour an indicator ought to encourage. Indicators that might encourage counter-productive activity should be avoided if possible. Examples are PIs that encourage staff or managers to shift problems over to other organisations or areas not being measured or to allocate disproportionate resources to activities because they are being measured. PIs should not be open to easy manipulation, and use of several counterbalancing indicators will sometimes be necessary to discourage such behaviour.

Avoid perverse incentives

An example of a PI that may create perverse incentives is the indicator, 'The average waiting time for calls to be answered', which was used to monitor the performance of an organisation's switchboard. In order to process calls quickly, operators took less care over making sure that they put the caller through to the right extension, and the level of misdirected calls rose. A combination of counterbalancing PIs could limit this perverse incentive: 'The average waiting time for calls to be answered' and 'The percentage of calls that are put through correctly'.

Another example of a PI that may not always have desirable effects is 'The percentage of trains arriving within 10 minutes of scheduled time'. Such an indicator could result in the situation, where two trains that will share the same line are late, that the

one with the longer delay is held back to ensure the other train is on time.

Allow innovation

59. The definition of an indicator ought not to deter organisations from developing innovative processes or coming up with alternative methods, systems or procedures to improve service delivery. PIs should ideally be constructed to allow and encourage such innovation to take place. Indicators that focus on outcome and user satisfaction are more likely to do this than indicators that are tied into existing processes.

Allow innovation

A contract for street cleaning was monitored against a specification with a set of performance targets and indicators that listed each street, and said how frequently it was to be cleaned and the type of cleaning to be carried out. This did not allow the contractor to vary the service to be delivered to reflect the extent to which streets became littered. A better specification would define the standards of cleanliness to be achieved, and the speed of response to a report of littering, and allow the contractor to deliver the service in the most effective way available.

Statistically valid

60. Indicators should be statistically valid. Performance indicators based on a small number of cases are likely to show substantial annual fluctuations. In these instances, it should be considered whether a performance indicator is the right method to gauge the performance development or whether a larger sample size is possible.

Statistically valid

The definition of the best value PI, 'The percentage of undisputed invoices which were paid in 30 days', states that it is to be based on an analysis of all invoices, or of a representative sample of at least 500 invoices. This will provide a good degree of accuracy.

In contrast to this is the PI, 'The number of deaths due to fire in a brigade area in any one year'. The number could be small in some brigades and therefore subject to quite random fluctuations from year to year. A five-year moving average would reveal trends more robustly.

Timely

61. The PI should be based on data that are available within a reasonable time-scale. This time-scale will depend on the use made of the data. Some data are collected on a weekly or even daily basis, as they are needed in the operational management of the service, whereas others are available once a year for more strategic and long-term purposes. Organisations need

to be aware of the risk of basing decisions on data that are out of date and no longer accurate.

Assessing the importance of the criteria

62. In practice it can be difficult to devise a performance indicator that fulfils all the criteria precisely, and trade-offs will often be necessary. Many PIs are likely to score less well

in one or two criteria. Less than 'perfect' indicators can, however, represent a valid starting place if refinements are carried out when more insight into the area is gained.

63. What is crucial is thus that the indicator is developed in the context of the use and users [EXHIBIT 5].

EXHIBIT 5

Types of uses

The matrix illustrates the use of different types of performance indicators according to the public/internal and national/local dimensions.

	National	Local ¹
Public	National publication against targets or in 'league' tables. These indicators may also be used to demonstrate accountability.	Publishing local standards and targets, in order to enhance accountability and to inform the local community.
Internal	Comparisons and benchmarking between organisations, to improve service performance.	Use of PIs as part of the local management process, and to monitor the achievement of local political objectives.

Source: Audit Commission

¹ 'Local' is here used to signify PIs that are set as a supplement to any national PIs by NHS trusts, health authorities, government agencies and local government.

64. Public-national use of indicators demands that indicators are clearly defined, comparable, verifiable, unambiguous and statistically valid. In order to achieve these qualities it may be necessary to compromise on some other factors.

65. Indicators that are published to the local community (**public-local** use) should first and foremost be relevant and easy to understand. They should be unambiguous to avoid confusion, or at least they should be clearly interpreted. Comparability over time could be more important than comparability between organisations.

66. Indicators used for benchmarking (**internal-national**) can often be useful even if they score less well on some of the criteria, as the benchmarking process can involve discussion and more detailed exploration of differences in definition and measurement.

67. Indicators used internally (**internal-local**) should be relevant to local corporate objectives. They should also be responsive to changes in performance by the authority, and if used for management, they should also be timely.

68. When criteria are not met, it is essential to be aware of the implications for the collection and interpretation of the data. Extra training of staff or better communications with stakeholders may, for example, be required.



6. Making indicators work

Controlling the number of indicators

69. The challenge when developing PIs is to balance the number of performance indicators against the overall ability to describe the service. The number of indicators, however, depends on what is appropriate for the target group and context in question. In some cases, where a stakeholder is interested in several complex services or where there are many different stakeholders, it might prove difficult to keep the number of indicators down.

70. It is important that the set of indicators is chosen carefully, as it is easy to produce a portfolio with so many indicators that it becomes hard to focus on the true performance of the organisation. Organisations need to keep the overall number of indicators to a manageable number if they are not to be swamped with information.

71. Most public service organisations provide a variety of services, so although there may be only a handful of indicators for a single service, the overall portfolio could include over a hundred indicators. The CIPFA report, *Measuring Up* (1998), argues that a

good working rule is a set of 10 to 20 indicators for any one reader or individual manager. The number will depend upon the position of this individual, the complexity of the area and the intended use of the PIs. There are a number of ways to reduce the number of indicators.

Develop 'action-focused' indicators

72. Performance information systems often accumulate unnecessary indicators on the assumption that 'it would be nice to know about...'. Such indicators distract attention from the important issues facing a service. An important question that should be applied to every indicator is 'What action could the recipient of the information take on the basis of this information?' Indicators where the answer to this question is that the recipient would never take action on the basis of the information should not normally be in the portfolio.

73. This criterion particularly relates to 'context' information. Information such as 'the proportion of the local population that is over 75' should thus not be confused with a real indicator of performance. It may, however,

deliver essential knowledge for the user to be able to understand the context of the service and to interpret the performance figures.

Report only indicators that are relevant to the user

74. Some organisations include every indicator in their performance reports, regardless of whether it is used at an operational or strategic level. Indicators should be tightly focused on the user's information needs. If the indicators suggest that there are problems in service delivery, users should demand additional, lower-level information on an exception basis, rather than receive it routinely.

Use composite or illustrative indicators

75. Some performance information systems use a score developed from adding several indicators together into a **composite indicator**. The advantages of such indicators are that they can present an overall picture of a service area, making it easier to get a quick overview of the performance.

76. An important issue when constructing composite indicators is to decide the weights that are applied to each indicator in the formula. Ascribing weights to different functions can be difficult and contentious, and the interpretation of composite indicators can mask differences in performance of the areas clustered together.

77. The NHS Performance Assessment Framework high level indicators include a composite indicator of potentially avoidable deaths from ten different conditions. No weighting has been applied to the different conditions. An example of a composite indicator where weighting has been used is 'the average cost of handling a Housing Benefit or Council Tax Benefit claim, taking into account differences in the types of claim received', where case costs are weighted by caseload mix. This is an example of a relatively simple composite indicator, as the factors do not vary much in nature.

78. Another example of a composite indicator, where different aspects of performance are added together, is the university league table published yearly by *The Times* newspaper. The main indicator determining the ranking of the universities is composed of eight indicators to which different weights are applied. Teaching

assessments, for example, are weighted 2.5, research weighted 1.5 and the remaining indicators 1.

79. An alternative approach to developing a composite indicator is to identify the most important aspect of the service and report a single indicator to illustrate the performance of an organisation in that service area. The assumption behind such **illustrative indicators** is that if the organisation is good at this aspect of the service, it is likely to be good at the others as well. However, it carries the risk of distorting service delivery, as most of the effort might be put into this area. This type of indicator can be acceptable provided that the user is satisfied that a balanced set of indicators is being monitored at another level in the organisation. For example, an illustrative indicator within best value for trading standards is 'the average number of consumer protection visits per high and medium risk premises'. This indicator captures an important aspect of trading standards, but does not reflect a number of other activities.

Regular refinement of indicators

80. Public services are undergoing continual changes due to both internal and external factors or in response to users' demands. It is important that performance indicators react to these changes. Change might occur if political priorities have changed, the demand for services has changed, or a programme or development has been completed. Changes or additional indicators may also be necessary if the indicators originally chosen are found to be flawed, or new and better data become available.

81. Organisations also need to respond if the performance indicators suggest that objectives are not being met, by developing action plans that will require performance indicators to monitor their implementation. The performance measurement system should report not only indicators of performance but also incorporate an evaluation and review process to consider whether it is measuring the right things in the right way. But indicators should not be amended too often, otherwise long-term trends and comparisons will be lost.

Setting targets

82. Setting targets can be a helpful method to challenge the organisation or a specific service area to do better. Targets can provide a forward-looking perspective and information on not only the level of activity of a service but also on whether objectives are being achieved.

Targets could be based on:

- political priorities
- community and customer priorities or concerns
- previous performance
- internal comparison with other units within the organisation
- external comparison to identify good practice (either with other public organisations or with private sector organisations).

Targets can be:

- **All-the-time targets**, which promise the level of service to be delivered all the time.
- **Percentage achievement targets**, which are commitments to achieve a stated level of performance against a standard.
- **Qualitative targets**, which are descriptive targets of what level of service to expect.
- **Time-bound targets**, constituting a one-off promise for a certain area.

- **National, regional or family targets**, which are set for a demographic and/or service area.
83. It is crucial that the targets are realistic (not constituting a 'wish list') but at the same time challenging for the organisation and its individuals. The targets should in other words be SMART, that is, Specific, Measurable, Achievable, Relevant and Timed. Box D lists a number of examples of good and bad targets.

Avoid common pitfalls

84. Box E summarises some of the pitfalls when developing performance indicators and suggests some ways in which the difficulties may be overcome.

BOX D

Examples of good and bad targets

Examples of good targets:

'We will reduce the number of missed household collections by 10 per cent by next year.'

'We will aim to collect 95 per cent of the council tax which is due next year.'

'We will increase the number of visits to local libraries by 20 per cent before the end of 2001.'

'We will cut the number of unfilled places in primary schools by 10 per cent by 31 December 2000.'

Examples of poor targets:

'We will improve the way we handle complaints.'

'We will buy as many books for the schools as possible.'

'We aim to have the best bus service in the region.'

'We aim to increase co-operation between school and police authorities.'

'We will answer 75 per cent of all letters within 5 days' (a poor target if the remaining 25 per cent take 3 months to answer).

Source: Audit Commission

BOX E

Common pitfalls when setting up performance indicators and how to avoid them

Pitfalls	And how to avoid them...
PIs that measure activity rather than performance will provide less useful data and information overload.	A focus on the key objectives of the organisation will keep attention on the essential goals. From these key objectives, it is important to align indicators to the more operational levels.
Focusing on short-term targets at the expense of long-term objectives is a risk, due to pressure for immediate good performance.	The balanced scorecard approach can help to ensure the inclusion of both long- and short-term objectives.
Lack of understanding of outcome measures might lead to this type of PI being underused.	It is worth spending time on developing good outcome measures, though this is not an easy task. The ripple effect can be a helpful method. Measures of processes associated with good outcomes may also be used if outcome measures are not available.
Too many financial measures compared with quality measures can lead to skewed performance and neglect of essential areas.	The balanced scorecard or a similar approach should be considered to ensure the right balance.
Manipulation of data to improve the measured performance is a risk especially when performance is published, ownership of the indicators is weak, or staff reward and censure depend on the indicators.	Perverse incentives can be minimised by setting up counterbalancing PIs, verification of data and by involving staff in the construction of indicators.
Danger of specifying data because they may be interesting rather than needed.	Again a focus on the key objectives of the service or function can reduce the risk of ending up with 'nice to know' rather than 'need to know' indicators. But organisations should recognise the possible need for context indicators.
Risk of measuring job processes that are easy to measure rather than those that have the greatest potential value, for example, routine work vs. research projects.	Focus on key objectives and a cascading down to more operational measures can improve the insight into the valuable processes of the organisation.
Not targeting the PIs on the relevant stakeholder groups will often lead to the information not being used.	Stakeholder analyses and clear information and communications strategies can improve the targeting of PIs to stakeholders by understanding their needs. Clarity of purpose is achieved.
Not comparing like with like can lead to feelings of unfairness and lack of trust in the performance measures.	Data quality must be high and consensus established on the principles on which comparison is based. Trust can be enhanced by using PIs intelligently, to prompt questions rather than to jump to conclusions.
Not understanding user needs may lead to the wrong PIs being collected and efforts put in the wrong areas.	Stakeholder analysis can again provide a useful tool.
Not revising the system in response to internal and external changes may lead to an outdated system not measuring the significant things and possibly sending the organisation in the wrong direction.	Regular refinement of individual indicators and the set of indicators should be included in the evaluation and review system of the organisation.

Source: Audit Commission

7. Conclusion: what to do next?

85. Setting up a portfolio of performance indicators is a key part of a good performance measurement system. Creating a balanced picture of the service and focusing on the priorities of the organisation are not easy tasks, but achieving an understanding of the users and uses of performance indicators is a crucial first step in this process.

86. 'The perfect PI' is seldom created overnight and will often need to be improved and refined, as more experience and insight are gained. It is important that efforts should be made to come up with good, solid indicators, and that an 'easy' option in relation to the development and choice of PIs is not slipped into. Organisations should also look for alternative ways of assessing performance in those cases where it proves difficult to develop quantifiable indicators. But at the same time, it is important to get started with the work of developing PIs. Planning and preparation, experienced staff and motivated management should be allocated to the creation of a set of robust performance indicators.



Bibliography

- Better by Far: Preparing for Best Value*, Audit Commission, 1998
- Management Information. Can You Manage Without It?*, CIPFA, 1997
- Managing Services Effectively*, HMSO/Audit Commission, 1989
- A Measure of Success: Setting and Monitoring Local Performance Targets*, Audit Commission, 1999
- Measuring Up*, CIPFA, 1998
- The Measures of Success: Developing a Balanced Scorecard to Measure Performance*, Accounts Commission, 1998
- Modernising Government*, White Paper, March 1999
- Performance Indicators for 2000/2001*. Consultation document produced by DETR and the Audit Commission on Best Value and Local Authority Performance Indicators for 2000/2001.
- Performance Management Framework for NHS Wales*, National Assembly for Wales, 2000
- Performance Review Implementation Guide*, Audit Commission, 1990
- Planning to Succeed: Service and Financial Planning in Local Government*, Audit Commission, 1999
- Putting Quality on the Map*, HMSO/Audit Commission, 1993
- Quality and Performance in the NHS: High Level Performance Indicators*, NHS Executive, Department of Health, June 1999
- Wiring it Up – Whitehall's Management of Cross-cutting Policies & Services*, Performance and Innovation Unit, January 2000

Performance measurement, including the use of performance indicators, is an essential tool for improving public services. But the full benefit of using performance indicators will be achieved only if the indicators are devised carefully, and used appropriately. This paper, and its companion paper, *Aiming to Improve: The Principles of Performance Measurement*, are based on the lessons learnt from the development and use of performance indicators by the Commission and other experts in the field over the past decade.

This paper is written for managers who are responsible for devising performance indicators. The companion paper provides an overview of performance measurement for policy makers and senior managers.

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