Foreword

One of the present mechanisms of funding Departments of Clinical Radiology will change with the demise of fundholding general practices. However, as set out in the White Papers, the separation of commissioners and deliverers of healthcare remains a cornerstone of the new Government’s policy. Although individual general practitioners (GPs) will not be purchasing radiology services, the present trend for fundholding practices to join together as consortia for
purchasing or commissioning healthcare will be consolidated as part of the Government's plans. These primary care consortia will commission healthcare for populations of around 100,000, and the majority of large hospitals will, therefore, be dealing with at least four, and often more, commissioning consortia. The new policy also focuses the consortia commissioning process on clinical conditions, so that purchasing will be centred on clinical specialties, for example gastroenterology and cardiology. It is therefore the view of The Royal College of Radiologists (RCR) that the principles behind service level agreements remain important and significant.

The RCR is fully aware of the pressures under which radiologists are working at the present time. It is hoped that this document will act as guidance for Departments of Clinical Radiology in managing their workload and in ensuring that the appropriate funding is transferred from clinical groups and from purchasing consortia to departments. The College believes that the management of workload and related costings through service level agreements will assist radiologists in their discussions with management, and help purchasing consortia to enable appropriate resources to be provided for the imaging services. Current RCR guidance will also provide assistance. Clinical Radiology Quality Specification for Purchasers establishes criteria for service specification, operational standards, standards for the requesting and reporting of radiological examinations, and equipment and statutory requirements. Contracting in Clinical Radiology provides a discussion of different contracting methods and a template service level agreement.

I would like to thank on behalf of the Faculty Board Professor Iain McCall for his work in writing this document, and also to acknowledge the contributions of members of the Clinical Radiology Regional Chairmen’s Committee.

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1 Introduction

1.1 The change of Government has led to a shift in policy within the NHS, reducing the emphasis on business management of hospital services, and increasing the emphasis on clinical efficacy. There has also been some expansion of funding for the National Health Service, but this is likely to have a limited effect in alleviating current pressures. Cost–effectiveness will therefore continue to have a major role in the delivery of health care.

1.2 The concept of service level agreements is reinforced by the White Paper, which specifies that agreements between Health Authorities and Primary Care Groups and NHS Trusts on the service to be provided for a local population should replace the annual contracts of the internal market.

1.3 The aim of establishing a service level agreement is to manage the workload of a Department of Clinical Radiology in an orderly and efficient way, which is linked to the facilities and resources available on a planned rather than a random basis. Pre–planning of work volumes should enable Departments of Clinical Radiology to manage the flow of patients and to respond to changes in
clinical practice. Commissioning procedures should be developed so that budgets and workload are negotiated in realistic ways, in that:

- the Department of Clinical Radiology's budget should reflect the true cost of the work undertaken;
- this should be recognised in the contracting process with commissioners;
- the appropriate funds should be transferred to the Department of Clinical Radiology.

1.4 The RCR is under no illusion with regard to the difficulties involved in managing service level agreements as new money is rarely available for extra workload. Nevertheless, it is important, in terms of clinical effectiveness and achieving high standards of patient care, that departments are not overloaded and that the agreed workload is managed and monitored on a regular basis. In the absence of additional resources being provided for excess work or unscheduled developments:

- the service provision must be reviewed by the Department of Clinical Radiology;
- the consequences of the situation should be carefully considered and discussed within the Department of Clinical Radiology;
- a clear policy for setting priorities and managing unmet need should be established.

1.5 All service level agreements should take into account the principles identified in the RCR advice on risk management.

2 Principles

2.1 Achieving a balance between the resources available to undertake the work and the level of workload is fundamental to departments that provide a service to others.

2.2 A service level agreement enables the clinically requesting group and the radiological deliverer of the service to agree the amount of work that is possible for an agreed budget and, in particular, to agree the quality of the service that is to be provided. More fundamentally, it also contains an agreed mechanism whereby a shift in the workload, or a change in casemix, will result in a variation of either: (i) the amount of income transferred from the commissioner of the service to the Department of Clinical Radiology; or (ii) the agreed workload.

2.3 It is clearly important that a service level agreement is understood to be enforceable by either party.

3 Basis of Funding/Budgeting

3.1 There are a number of ways of providing the budgets for Departments of Clinical Radiology. They vary in their sensitivity to workload.

3.1.1 Item-for-service budgeting
Within health provision, the Department of Clinical Radiology is a service deliverer. Where each item of service is paid for on an individual basis, accurate cost analysis of the service delivered will set the correct price for the work.

In radiology, item-for-service budgeting takes place within the private sector. The workforce can be expanded or contracted according to the workload, and the quality of the service delivered can be costed and recompensed.

In the National Health Service, however, the number of transactions undertaken per day is so large, and the complexity of the funding is so great, that a complete item-for-service system is not at present feasible. A small sector of GP fundholders may use the item-for-service system, but the majority, even in this group, has more broad-based workload contracts.

3.1.2 Health related groups

The total caseload of the hospital is divided up into groups of conditions, and the treatment of these conditions is costed. There will be a slice for radiological investigations, and the total cost will represent the contract price for the group of conditions. The commissioning bodies, be they GPs or health authorities, would then contract for a specific number of cases within each group, and the payment to the individual hospital would cover the total cost of those cases. In these circumstances, it would be expected that: (i) the Department of Clinical Radiology would be directly reimbursed for their component of the cases; or (ii) this would be part of the formulation and content of a block radiological budget.

3.1.3 Cost and volume contracts

Cost-and-volume contracts represent a less sophisticated version of health related groups. A clinical specialty service or commissioning group may agree to contract for a block of work at a specific price, which may be variable in its content, but which would be agreed on the basis of an average costing of the casemix, and an agreed volume of work.

3.1.4 Top-sliced budget

Finally, the least sophisticated means of funding Departments of Clinical Radiology is a top-sliced budget, which is usually historical and reflects the expenditure of the department. This type of funding does not have a clearly defined income stream and is not formulated with a direct relationship to workload. 3.2 In all budgeting arrangements apart from item-for-service budgeting, a change in workload influences expenditure and affects the agreed budget, and a service level agreement should be applied between the commissioner of the service and the service deliverer.

3.3 The most usual arrangement is a hybrid, where the total departmental budget is made up of all types of income, including historical spend, income from private patients, GP consortia contracts and regional specialty consortia. Health Authority or consortia commissioners may make special contractual arrangements for specific services, such as magnetic resonance, outside of the overall departmental contract.
3.4 In the majority of Departments of Clinical Radiology within the NHS, the use of service level agreements appears to be unusual, despite the fact that most Trusts have types of service level agreements of varying sophistication with their commissioning Health Authorities for other clinical services.

4 Cost Analysis

4.1 In order to negotiate and conclude a viable service level agreement, the cost of providing the service must be analysed. Inevitably this will involve a considerable amount of work, and it would be expected that the finance department of the Trust would provide appropriate financial support to fund the initial work and to enable the smooth running of the service level agreement.

4.2 Cost accounting is an essential tool in accumulating relevant cost data. It is one of the basic components in evaluating the use of resources in order that an appropriate service level agreement may be concluded. It assigns costs to the smallest segment of a business for which meaningful costs can be calculated, and serves as a database for decision-making and planning.

4.3 Costs can be divided into: (i) fixed costs, which remain constant despite volume; and (ii) variable costs, which change proportionately with changes in volume. Other features, such as differential costs (costs that change as a result of certain decisions) and opportunity costs (economic resources that have been foregone as a result of accepting one alternative instead of another), are of less importance with regard to service level agreements.

4.4 Before implementing cost accounting, it is important to decide the level of accuracy required. Complicated systems ought to be avoided. In developing such a system it is important to concentrate on the major cost factors, but the level of detail depends on the accuracy that is required of the data. Most of the data required can be extracted from examination lists, inventories and budget sheets.

4.5 Direct costs

These should include the cost of utilised capital, which includes the buildings, staff, radiological equipment, furniture, and a variety of other equipment. 4.5.1 Capital charges

The costing of x-ray rooms is based on the capital charges, which are divided into depreciation and interest on building and equipment.

4.5.1.1 Buildings

Depreciation of the x-ray rooms is over 30 years and is based on the valuation of the District Auditor. It can be apportioned over a sessional basis, extrapolating for the whole year.

4.5.1.2 Equipment

The period over which the depreciation for equipment should be calculated has been recommended by the RCR. The cost of equipment may be apportioned either on a block...
basis or on a case–by–case basis. Multipurpose general radiological equipment may be apportioned relative to the radiographer time taken for the examination, or alternatively by distributing the cost evenly to the total number of examinations performed. Clear allocation of equipment costs can be made for computed tomography, ultrasound, nuclear medicine and magnetic resonance.

4.5.2 Staff

Labour costs of radiologists and radiographers for the time spent performing the examination should be included. The radiologist and radiographer costs are based on the time required for specific examinations.

4.5.2.1 The radiologist's time would include:

- assessing the referral;
- performing any clinical examination required;
- performing the examination;
- interpreting the films;
- dictating the report where appropriate;
- demonstrating the case to the clinicians.

4.5.2.2 The radiographic time includes:

- guiding the patient to the examination room;
- making preparations for the examination;
- undertaking or assisting with the procedure;
- ensuring an appropriate record is made of the examination;
- caring for and guiding the patient after the examination.

4.5.3 Other direct costs

These should include the examination's specific material and equipment costs, including costs such as film, contrast, drugs, catheters and dressing packs. These can be examination–specific, or averaged for certain types of examinations where appropriate. 4.6 Indirect Costs

These should include labour costs of radiologists' and radiographers' time spent on tasks other than actual examinations, which can be distributed evenly per examination.

The costs of other personnel, including administrative staff and clerical staff and also postgraduate training costs, should be distributed either evenly per examination, or in proportion to the direct radiologist and radiographer costs.

Equipment service costs and items, such as furniture and auxiliary equipment, should be evenly distributed per examination.

Hospital indirect costs are usually allocated to the Department of Clinical Radiology, although the department cannot influence them significantly. Effort should be made to identify the appropriate
degree of apportionment between hospital departments if there is significant variability in the
use of hospital resources.

Where a number of minor cost factors exist, they may be assigned to a general cost factor.

4.7 Inevitably, radiology services carry some excess capacity, to deal with a variable service
demand, and the contents of the service depend on patient mix.

4.8 The cost of introducing and maintaining a cost accounting system will be excessive if each
and every cost item has to be entered by category of service. For departments with a wide
examination mix, the process should be started by allocating the most important cost factors,
such as personnel and equipment costs for each examination, in proportion to actual usage,
followed by other cost factors such as materials used by examinations and general clerical and
overhead costs.

4.9 No UK standards for costs of radiological examinations have been published, although the
Cost Diagnostic of the Audit Commission5 applies time elements for radiologists and
radiographers to individual examinations.

4.10 Departments of Clinical Radiology wishing to develop meaningful service level agreements
based on appropriate budgets must undertake the process of cost accounting. The level of detail
will be dependent on the necessary financial support being provided by the hospital and the
degree of budgetary freedom that individual Clinical Directors are given.

5 Service Level Agreements – Content

5.1 **Generic components**

Some parts of the service level agreement are generic. They are those which would be accepted
as an integral part of the radiological service, including the agreement to comply with all relevant
radiation safety, health and safety, and data protection legislation. Other features might include
the quality of patient facilities. These should be covered in general terms within the agreement.

5.2 **Specific components**

The specific features of the service level agreement relate to the quality of the service provided.

5.2.1 **Clinical staff**

The level of qualifications and skills of the individuals undertaking procedures and reporting the
images should be specified.

5.2.2 **The patients**

The type of patient within the agreement should be identified. This may include severely bed–
ridden in-patients, more-active patients, and out-patients.

The expected turnaround time of the patient within the hospital should be agreed.
The expected numbers of the patients in all categories, with the likely casemix, must be defined. An analysis of the expected use of different imaging modalities is vital if the quality of care and necessary expenditure is to be agreed.

5.2.3 Availability of the service

The timing of service provision should be explicit. The clinical commissioner would be expected: (i) to identify the likely times for service requirements; (ii) to expect a guarantee of adherence to those required times; and (iii) to accept an undertaking not to change them without due consultation and agreement.

The agreement may include uninterrupted radiographer availability and on–call radiologists’ service, 24 hours a day, 7 days a week, or may restrict the service provided to office hours or to specific times. It may also include the provision of on–ward facilities and the level of access to more sophisticated investigations. The timing of investigations may include a guarantee of within–12–hours imaging for in–patient cases, specific waiting list times for out–patient cases, and agreed access and time factors for more sophisticated investigations.

5.2.4 Requests for reports

The quality of requests should be agreed. The referring clinician must agree to provide adequate clinical information dependent on the complexity of the case and the sophistication of the investigation or therapy requested.

Clinical commissioners should agree to the level of notice required for requests, within clearly defined limits. The criteria for non–urgent but acute and chronic cases should be identified, and the relationship to hospital expenditure should be clearly defined. It is unsatisfactory for a patient to come in for a 24–hour period for investigation and have to wait for the specific investigation. It would also be unreasonable, however, for a clinician to bring in a patient for a 24–hour investigation programme without agreement with the Department of Clinical Radiology beforehand, and knowing that there is a three–month waiting list for the specific investigation.

The referring clinician must identify the level of reporting services that are required for specific requests, including immediate access to a consultant radiologist, clinico–radiological conferences, advice levels, and reports. It is obviously unreasonable to expect radiologists to provide a large number of reports within a day if they are constantly being interrupted for personal consultations on individual patients.

5.2.5 Quality of reporting services

The quality of the reporting service should be defined in terms of the speed with which the reporting is undertaken and the reports are dispatched to the referring clinician. This may also contain agreements regarding clinico–radiological conferences and ways of accepting urgent cases by direct access to radiologists.

5.2.5.1 Agreements on the speed of reporting may include:

- return of the radiological reports of in–patients within one working day;
• reporting of casualty films within 24 hours;
• reporting of casualty and urgent films on a hot-reporting basis;
• an agreement regarding the reporting of films taken from the Department of Clinical Radiology and returned after a long period;
• reporting of special investigations.

5.2.5.2 The quality of the report in terms of accuracy is expected to be in line with the accepted professional standards. Assessment of this accuracy would usually fall outside the remit of a service level agreement, and would usually form part of the audit commitment that should be undertaken by all departments.

5.2.5.3 Formal agreement for the non-reporting of films should be clearly made within the service level agreement, and alternate arrangements should be defined.

5.2.6 Transfer of reports

This would include an agreed speed for typing of reports, the methodology of transfer of reports to the clinicians, and an outline of the responsibilities of each party for ensuring that the report is made available for the requesting clinician. It is not, however, the responsibility of the Department of Clinical Radiology to ensure that a clinician has read the report of the examination that he/she has requested. An agreement to inform clinicians personally of conditions requiring urgent treatment may be included, but the limits of this service should be defined and the resources required, in terms of radiologists' time, must be recognised.

5.2.7 Quality of service for the patients

This would include agreement on the type of appointment system used, maximum waiting times, and the quality of the staff undertaking the care of the patient.

5.2.8 Policy for equipment and future planning

There would inevitably be some statements within the agreement with regard to the effective management of the department. This would include staffing levels, grades of staff, costs of consumables, and management of equipment, to ensure that downtime is kept to a minimum. All aspects of service planning and development should be recognised in the agreement, with a clear indication of the implications of any future developments, either by the commissioner or the deliverer.

5.2.9 Other areas

Other areas which might be covered include the following:

• the mechanism by which complaints are handled;
• the requirements for education and training, for the service deliverer, the commissioner of the radiological service, and the Department of Clinical Radiology;
• the level of information technology available in order that the statistical data for service level agreement monitoring is in place and agreed.
6 Service Level Agreements – Commissioner/Service Deliverer Agreements

6.1 A commissioner of the service would expect to agree a number of specified criteria regarding volume of work and quality of service required, as set out in Section 5.

6.2 The agreed volume of work and quality of service must be costed by the Department of Clinical Radiology.

6.3 Careful cost analysis and an agreed quantum of income budget must be agreed in order to provide the agreed quality of service.

6.4 Within the agreement, variability clauses must be included. These may take the form of an increase in income at an agreed level if the workload increase is beyond a specific percentage overall, or if the casemix changes to more expensive investigations. Clear examples would include a transfer of back-pain investigations from plain x-rays to magnetic resonance, or a change of policy for treating biliary tract stenosis from surgery to stents.

6.5 Penalties for poor service provision should be included, and similarly a recognition of the implications for the clinical commissioner if the quality of the referral pattern is not followed. This must be explicit within the service level agreement.

6.6 Requirements for commissioners must include liaison with the Directorate of Radiology in relation to strategic planning. The impact of developments in other clinical fields must be assessed and agreed.

6.7 Facilities that are provided by the commissioner as part of the service, such as technical equipment, information technology and clerical support, must be identified and agreed.

6.8 There should be an agreed plan for managing failure of the service level agreement. This may involve:

- assessing the relative urgency of cases and the implementation of waiting lists for non-urgent cases;
- limiting access for more sophisticated examinations which do not have specific consultant radiologist approval;
- ensuring that proper agreement is reached before undertaking delivery of services for new developments.

6.9 It is important in the management of a service level agreement that excess usage is identified early, so that appropriate discussions and reviews can take place, to avoid a sudden cessation of service.

7 Conclusion

7.1 Service level agreements are required to monitor and assess workload within a Department of Clinical Radiology.
7.2 Many service level agreements have failed, due to inadequate monitoring of the agreement and failure to implement the penalty clauses and/or the financial transfers identified in the agreement.

7.3 Ultimately these agreements will only work if: (i) they are applied rigorously and effectively by the service departments; and (ii) they are fully accepted and enforced by the Trust management.

Approved by the Board of the Faculty of Clinical Radiology: 8 May 1998
Approved by Council: 29 May 1998
BFCO(98)4

References


