

HEALTH POLICY REPORT

Linking Physicians' Pay to the Quality of Care — A Major Experiment in the United Kingdom

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Family practitioners are the main primary care physicians in the United Kingdom, making up half of the medical workforce in the National Health Service (NHS). In April of this year, family practitioners entered into a contract with the government that will provide additional payments for high-quality care in excess of £1 billion (\$1.8 billion) — more than 20 percent of the previous family practice budget. One American commentator described this as “an initiative to improve the quality of primary care that is the boldest such proposal attempted anywhere in the world” and suggested that “with one mighty leap, the NHS has vaulted over anything being attempted in the United States, the previous leader in quality improvement initiatives.”¹

Having been an adviser to the negotiating process, I describe here the development of this scheme to improve quality. I give an overview of the incentives offered and discuss some of the likely consequences, both intended and unintended, that may follow from this radical experiment.

THE PROFESSIONAL CONTEXT

British family practitioners derive the great majority of their income from NHS patients. Almost all of the citizens of the United Kingdom are registered with a family practitioner, and family practitioners have registered lists of patients for whom they are responsible. Their work within the NHS is governed by a national contract, known as the General Medical Services contract, that is negotiated between professional representatives of the British Medical Association and the central government. This contract is revised at infrequent intervals; since the NHS was started in 1948, major contract revisions have been made only in 1966 and 1990.

Under the 2004 contract, responsibility moves from the individual family practitioner to the practice, which is a group of, typically, one to six

physicians. However, this does not change the arrangement wherein the physician or practice is responsible for a defined group of patients. A substantial minority of family practitioners provide care under a different arrangement, known as the Personal Medical Services contract, but the principle of responsibility for a registered list of patients is the same. The application of the incentives to improve quality is also very similar in both types of practices, so no distinction has been drawn between them for the purposes of this article.

A previous attempt to provide financial incentives for high-quality care, dubbed a Good Practice Allowance, in the mid-1980s was rejected by the profession. A report from a meeting of the British Medical Association in 1986 stated that “the conference said ‘No’ to a Good Practice Allowance. . . . Dr. [Michael] Wilson told the conference that the [Good Practice Allowance] was political and provocative, prepared by a policy unit whose main contact seemed to have been with philosophers, privateers and trendy professors.”² At the time, there was little professional acceptance of the contention that wide variations existed in the practice of medicine, or that such variation might be detrimental to patient care.

Nevertheless, there were some elements of performance-linked pay in the contract that was introduced in 1990, with financial incentives for physicians who reached high proportions of patients who had been immunized or monitored with regular Papanicolaou smears. Although they were unpopular with the profession at the time, these two measures resulted in both increased coverage of immunization and Papanicolaou tests and increased equity in the provision of these services in different parts of the country.^{3,4} A second incentive that was introduced in the 1990 contract provided generous remuneration for family practitioners to establish “health promotion clinics” to encourage preventive screening and lifestyle interventions. There was little evi-

dence that these clinics were effective, and they were widely manipulated by physicians for their own interests, which led to the elimination of payments for the clinics in the mid-1990s. Prior to the negotiation of the most recent contract, therefore, government and the profession had only limited experience with performance-related pay.

THE ACADEMIC CONTEXT

Part of the reason that doctors rejected the Good Practice Allowance in the mid-1980s was that they rejected the notion that quality could be measured. In addition, there was a substantial degree of professional protectionism that took the form of denying the existence of poor practice. The 1990s were the years of evidence-based medicine, when health professionals gradually came to accept that there were better and worse ways of doing things and that there were justifiable limits to individual freedom in the clinical setting. This was also the decade when researchers in health care on both sides of the Atlantic demonstrated that there were widespread variations in the practice of medicine and that many patients were receiving care that fell short of what could be provided.^{5,6}

The combined effect of these developments was that it became increasingly possible both to define high-quality care and to provide methods that could be used to measure some aspects of the quality of care.⁷ The change in the culture of the profession that occurred during this decade was enormous, and it stemmed in large part from research in the health services that was carried out in the United States and the United Kingdom.

THE POLITICAL CONTEXT

With a change in the professional culture, and with the tools becoming available to measure the quality of care, the last piece of the jigsaw puzzle was the political will to bring in the proposed changes. To tie a substantial proportion of physicians' income to the quality of the care they provided would produce winners and losers. However, the British Medical Association was unlikely to negotiate a change in remuneration that would result in the loss of income for large numbers of its members. Therefore, the scale of the change that came about was possible only because in 2000 the government of the United Kingdom decided to provide a substantial increase in health

care funding. This change came as a result of growing public disquiet over the quality of public services, a recognition of the serious underfunding of health care in the United Kingdom as compared with that of similar countries, and the publication of data suggesting poor outcomes for health care in the country. Wider factors such as a period of sustained economic growth also provided essential background to the government's ability to invest substantially in health care.

THE NEGOTIATING PROCESS

The pieces of the jigsaw puzzle were then in place. There were demonstrable deficiencies in care that had been accepted by the profession. Professional representatives were willing to negotiate the provision of care that met higher standards in return for increased resources, and the government was willing to commit additional resources if there was evidence of improved performance. The contract negotiations involved a wide range of other issues, some of which will also produce major changes in primary care in the United Kingdom. These changes include the removal of the requirement that family practitioners provide care outside of normal office hours and the provision of additional payments for certain types of "enhanced" service (e.g., the treatment of drug abuse). However, only the changes that relate to the quality-of-care framework are described in this article.

Negotiations took place, over an 18-month period, between the British Medical Association (which acted as the doctors' representative) and the NHS Confederation (the organization that represented NHS management, which acted on behalf of the government) and with the assistance of a small group of academic advisers. The academic advisers drew on published national guidelines for sources of evidence, such as those from specialist societies or from the National Institute of Clinical Excellence (www.nice.nhs.uk). The advisers did not, in general, take into account the evidence from individual research papers if that evidence did not form part of such national guidance. The academic input was always advisory, and decisions were ultimately made by the negotiators. Only rarely were there serious differences between the parties, even though reaching a consensus sometimes required protracted discussion. The resulting indicators form the Quality and Outcomes Framework.

THE QUALITY AND OUTCOMES
FRAMEWORK

Family practitioners can now earn up to 1000 “points” for achievement in relation to the complex set of indicators that make up the Quality and Outcomes Framework. An additional 50 points are available for the provision of prompt access to services. Within the framework, there are three main sections: clinical care, practice organization, and patient experience.⁸ The points translate into pounds sterling (£), which are claimed on an annual basis. The process of earning points involves a complex formula that takes into account both the size of the practice and the prevalence at each practice of the conditions covered by the framework.

CLINICAL INDICATORS

The clinical indicators, measures of the quality of clinical care, pertain to specific aspects of care such as regularity of monitoring. They relate to 10 chronic conditions (Table 1) that were chosen because of their prevalence or their importance in terms of the burden of disease. Table 2 shows examples of four indicators that relate to the management of blood pressure and cholesterol in patients with ischemic heart disease. Family practitioners earn more points if higher proportions of these patients have undergone “process measures” (i.e.,

they have had their blood pressure or cholesterol measured) and further points for “intermediate outcomes” (i.e., these risk factors have been managed within certain limits). Generally, more points are available for the intermediate outcomes than for the process measures, which reflects the increased difficulty of achieving these standards. The number of points that can be earned for each indicator was determined partly by the academic advisory group and partly by a formal scoring process undertaken by groups of family practitioners in England and Scotland. The intention behind this process was to allocate points on the basis of the workload required to provide care to the relevant standard. There will be a process within the NHS, which is not yet defined, to ensure that the indicators are periodically updated.

In order to prevent care from being given to patients for whom it might not be appropriate, family practitioners may exclude patients from both the numerator and denominator of any individual indicator if the patients meet one of the following criteria for exclusion: they do not attend an office visit despite three written reminders, they have newly diagnosed conditions or are newly registered, they decline the intervention or treatment, they have not tolerated a medication that is specified in the contract, they are already receiving maximal doses of a medication (e.g., for the control of cholesterol) whose effects have been suboptimal, they have a condition (e.g., an allergy or a terminal illness) for which the intervention is not clinically appropriate, or they have a supervening condition that makes treatment inappropriate.

There is no limit on the number of patients whom family practitioners may exclude, although the physicians’ decisions may be questioned at annual inspection visits by Primary Care Trusts, which are NHS organizations with managerial responsibility for primary care in geographic areas that contain up to 100 practices. Detailed guidance on the evidence that supports the use of these indicators, and on their application, is available at www.nhsconfed.org/docs/quality_and_outcomes_framework_guidance.pdf.

The intention of the negotiators was to produce a set of indicators based on the best available information, to keep the number of indicators to a minimum that would be compatible with an accurate assessment of patient care, and to base the indicators on information collected in the course of routine patient care and on data obtainable from the

Table 1. Clinical Indicators and Assigned Points in the Quality and Outcomes Framework.

Condition	No. of Indicators*	Maximal No. of Points†
Coronary heart disease	15	121
Stroke, transient ischemic attack	10	31
Hypertension	5	105
Hypothyroidism	2	8
Diabetes	18	99
Mental disorder	5	41
Chronic obstructive pulmonary disease	8	45
Asthma	7	72
Epilepsy	4	16
Cancer	2	12
Total		550

* Each indicator measures the quality of a specific aspect of clinical care (e.g., regularity of blood-pressure monitoring in the case of hypertension).

† Points are earned through a complex formula that takes into account both the size of the practice and the prevalence of the conditions at each practice.

clinical computer systems of family practitioners.⁹ These were overly optimistic goals. The information requirements for the quality incentives will produce major changes in the recording of data in primary care, including the widespread computerization of clinical records, and substantial increases in the administrative burden on family practitioners.

The comprehensiveness of the indicators varies among the selected conditions. For diabetes and heart disease, for example, the indicators provide relatively comprehensive coverage of the most important clinical areas of care. In other areas, especially those relating to mental health and cancer, the indicators represent only partial coverage of the clinical areas — although in the case of cancer, both Papanicolaou tests and mammography are covered elsewhere in the family practitioner contract. However, more generally, quality indicators for these conditions (e.g., for mental health care¹⁰) may exist, but they are not necessarily in a form suitable for routine application to medical records. In order to make partial allowance for this deficit, audits of the care for both mental health and cancer are specifically rewarded under the organizational section of the framework (Table 3).

The data required to justify payments could, in theory, be collected from manual records. However, the intention is that they be extracted automatically from the computers of family practitioners. New clinical codes for the indicators in the framework have been standardized and agreed to with the suppliers of the main clinical computing systems in the United Kingdom. According to the strategic director of PRIMIS (www.primis.nhs.uk), family practitioners in the United Kingdom are already advanced in their use of information technology, with more than 90 percent of such physicians using computers for prescribing and between a third and half of them using computerized records for most of their clinical care. The incentives offered in the quality framework are likely to result in rapid further developments in the use of clinical computing systems. This will present a substantial challenge to some practices.

ORGANIZATIONAL INDICATORS

Organizational indicators were included in five categories: records and information about patients, communication with patients, education and training, management of medicines, and management of physicians' practices. These organizational indicators were in part derived from indicators in a range

of awards to practices given by the Royal College of General Practitioners; examples include the Quality Practice Award¹¹ and Fellowship by Assessment.¹² The categories of the organizational indicators, with one example from each, are shown in Table 3.

Table 2. Examples of Clinical Indicators and Assigned Points for Patients with Ischemic Heart Disease.

Indicator	No. of Points (% of Patients)
Control of hypertension	
Blood pressure has been recorded during the previous 15 months	1 (25) to 7 (90)
Most recent blood pressure reading (measured within the previous 15 months) was 150/90 mm Hg or lower	1 (25) to 19 (70)
Management of hypercholesterolemia	
Total cholesterol has been recorded during the previous 15 months	1 (25) to 7 (90)
Total cholesterol (measured within the previous 15 months) is 5 mmol per liter (194 mg per deciliter) or lower	1 (25) to 16 (60)

Table 3. Categories of Organizational Indicators and Assigned Points.

Category (total, 184 points)	No. of Points
Records and information about patients (maximum, 85 points)	
Example: The smoking status is recorded for at least 75% of patients between the ages of 15 and 75 years.	5
Communicating with patients (maximum, 8 points)	
Example: Patients are able to talk to a receptionist by telephone and face to face at the practice during a period of at least 45 hours from Monday through Friday.	1.5
Education and training (maximum, 29 points)	
Example: The practice has undertaken a minimum of 12 reviews of clinically significant events in the previous three years, including, if appropriate: any death on the practice premises, two new diagnoses of cancer, two deaths for which care of terminal disease has taken place at home, one suicide, one complaint by a patient, and compulsory hospitalization of one patient under the Mental Health Act.	4
Management of medications (maximum, 42 points)	
Example: A review of medications has been recorded during the preceding 15 months for at least 80% of patients who receive regular prescriptions but do not need to see the physician each time (excluding drugs available over the counter and topical medication).	8
Management of the practice (maximum, 20 points)	
Example: There are clearly defined arrangements for backing up computer data, for verification of backup, for safe storage of backup tapes, and for authorization to load computer programs.	1.5

THE EXPERIENCE OF PATIENTS

The rewards in the section that covers the experience of patients relate to the use of surveys in the doctor's own practice, which earns up to 70 points, and to the length of consultations, which earns up to 30 points. For the latter, there is an incentive for practices whose routine booking interval is 10 minutes or more.

The introduction of patient surveys was a point of contention. Until recently, surveys have not been commonly used in the NHS, and doctors were suspicious of their use. Partly because of this, and partly because of limited experience with available instruments for evaluating patients' opinions, an early decision was made to reward doctors for surveying their patients and for acting on the results; however, payments would not be linked to the scores from actual questionnaires. Family practitioners may choose from one of two approved questionnaires, which cover categories such as access to and interpersonal aspects of care.^{13,14} Other questionnaires may be approved in due course. In addition to making plans for acting on survey results, there is an additional incentive for family practitioners to involve their patients in these discussions. The aim of this section of the framework, therefore, is to engage family practitioners in the process of discussing the evaluations of their patients, rather than to focus on the questionnaire scores. Nevertheless, experience thus far suggests that many Primary Care Trusts are offering to carry out these surveys for practices precisely so that they can draw comparisons among their local practices.

FINANCIAL REWARDS

There are an additional 36 points for Papanicolaou tests, childhood immunizations, maternity services, and contraceptive services and 50 points for the achievement of high standards of access. An additional 130 points can be awarded to practices that score highly in all areas. In all, 1050 points are available, and, beginning in 2005, each point will be worth approximately £120 to the average practice in the United Kingdom (which has about 5500 patients and three practitioners). That is a potential increase in gross earnings of £42,000 (about \$77,000) per physician. The quality-of-care payments are expected to make up approximately 20 percent of the government's total family practice budget, about 90 percent of which will be new payments.¹⁵ These figures are gross numbers and therefore include the additional costs (e.g., for the

employment of nurses) that physicians may need to incur in order to deliver high standards of care. The percentage increase for individual physicians will thus depend on the extent to which they have already invested in high-quality systems in their practices.

IMPLEMENTATION AND INSPECTION

The details of the new contract were voted on by family practitioners in June 2003. There was a 70 percent turnout, and 79 percent voted in favor. The contract came into operation last April, with some elements of its introduction postponed until April 2005. The negotiators who developed the Quality and Outcomes Framework were mindful of the need to minimize the risk of manipulation or gaming (e.g., recording a patient's blood pressure as being lower than it actually is). Although this may occur in some areas, practices that claim payments under the quality framework will be subject to inspection, which will include an annual visit by representatives of the Primary Care Trust. Among the inspectors will be local family practitioners who hold managerial positions in the Primary Care Trust. The penalties for making fraudulent claims are severe, but it is not known how comprehensive or effective the inspections will be.

Within a few years, virtually all of the data for the clinical indicators will be downloaded automatically from the computer systems of family practitioners. However, some of the opportunities for gaming, such as the example given above, will be very hard to detect. The negotiating teams hoped that, despite some gaming, there would nevertheless be widespread improvements in quality of care and that, over time, it would become harder for family practitioners to manipulate the system for their own interests than simply to provide good care.

The central collection of claims data will allow the government to monitor overall implementation of the quality framework, and mechanisms will be established to update the indicators when required. There is no coordinated national program of evaluation, but a number of academic departments are engaged in research in this area.

CONSEQUENCES OF THE CONTRACT

Financial incentives are an effective way of changing professional behavior,^{16,17} especially when the incentives are aligned with professional values and focused on areas that are agreed to be of clinical

importance.¹⁸ They are being used increasingly in the United States as well as in other countries.¹⁹ With the size of the financial incentives being offered, there is no doubt that family practitioners in the United Kingdom will respond to them.

Some of the consequences that are likely to result from the introduction of the new contract — both the intended, positive, consequences and the unintended, potentially negative, ones — are outlined in Table 4. The clinical benefits of the contract may be relatively easy to quantify, with, for example, substantial probable benefits in terms of preventing cardiovascular events.²⁰ Some of the negative effects will be much harder to assess. Increased specialization within practices may increase the quality of the management of disease, but the associated fragmentation of care could have negative consequences, especially for patients with multiple illnesses, who increasingly represent the rule rather than the exception.²¹ There is a more insidious possibility that professional motivation may be damaged by the focus on financial reward that is tied to specific tasks, and physicians may become less flexible in what they are prepared to do for patients.

Some key attributes of care by the family practitioner, such as acting as an advocate for the patient, are not reflected anywhere in the contract. There is already some evidence that, when they focus on biomedical aspects of care, family practitioners may be less concerned about the patient as a person¹⁸ and that the whole discourse of primary care is becoming more oriented toward a biomedical model.²² Although the improvements in health from better clinical care can be estimated, the potential problems are much harder to quantify. Marshall and Smith have suggested that there may be a “halo effect,” with improved practice systems resulting in improved care in all clinical areas.²³ However, others have argued that the disadvantages of the contract will outweigh the potential health gains and that there is a fundamental conflict between population-based public health objectives and the individual focus of patient care.²⁴

There is also the possibility that the contract will lead to an increase in inequalities in the delivery of health care, with physicians preferentially locating to areas of the country where patients are healthier and better educated and where the targets are easier to achieve. Although this remains a possibility, the NHS has a number of mechanisms to encourage physicians to practice in disadvantaged areas,

Table 4. Anticipated Consequences of the New Incentives.

Rapid expansion of clinical computing systems
Expansion of the role of nurses in family practice
Increase in clinics that specialize in the management of specific chronic diseases
Increased specialization of physicians and nurses in primary care
Increased biomedical orientation of family physicians
Improved health outcomes
Fragmentation of care and consequent poor coordination of care, especially for patients with multiple illness
Loss of holistic approach to patient care
Reduction in quality of care for conditions not included in incentive system
Increased administrative costs

and the limited financial incentives in the previous contract for family practitioners led to a reduction, not an increase, in inequality of health care delivery in the targeted clinical areas.^{3,4}

There is interest in using financial incentives to improve care in many countries. In *Crossing the Quality Chasm*, the U.S. Institute of Medicine has called for an increase in payments to providers of high-quality care.²⁵ This reflects, in part, frustration with the modest changes in behavior that are seen with traditional educational approaches to the improvement of quality and, in part, the genuinely increased costs of providing high-quality care in certain areas (e.g., the employment of nurses to provide regular review clinics for patients with chronic disease). Many countries will look with interest at the research being conducted on the new contract in the United Kingdom to see which of its anticipated benefits and harmful effects will be realized.

Dr. Roland served as an academic adviser to the negotiating teams during the development of the Quality and Outcomes Framework and is currently engaged in research to evaluate the impact of the new contract.

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