

Reforming payment for health care in Europe to achieve better value

Research report

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The Nuffield Trust European Summit (Euro-Summit) 2012 was a high-level event for European health leaders, focussing on how best to reform health care payment mechanisms to achieve high-value, sustainable care. The summit aimed to:

- provide the latest information and evidence on major innovations on payment reform in Western Europe
- draw out cross-country learning around financially sustainable health systems
- identify the most promising next steps in payment reform
- promote debate beyond the event.

This research report is based on a briefing paper prepared by the Nuffield Trust for debate and discussion at the summit. It reflects the debate and discussion among participants, as well as incorporating subsequent analysis. We are grateful to all those who participated and shared their views.

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Introduction

The combination of increasing demands upon health care and constraints upon funding is resulting in big challenges for health systems across Europe. This is prompting major efforts to achieve better value for money.

In Europe, a range of policies focusing on improving the efficiency and quality of care provided are being trialled. Examples include: introducing greater competition among providers; developing guidelines for care using information on cost-effectiveness; regulating the quality of care; providing comparisons on variations in clinical practice; developing primary care; and developing integrated care (particularly for older people with multiple chronic conditions). Two important levers for payers of care have been to influence the prices paid for care and to reform how providers are paid.

This report examines trends in payment reform in selected European countries to help policy-makers, providers and payers understand developments and prepare for the future.

Executive summary

Improving value for money in health care is a high priority for policy-makers across Europe and beyond. Since in most countries a large proportion of health care is funded by government, two important options available are: to change the prices paid for care; and to change the way of paying for care (the structure of payment). This report focuses on the latter – the way of paying, principally doctors and hospitals, by government/public funders rather than by individuals, and outlines ongoing and future developments across selected European countries. The report is designed to help providers and payers understand what is emerging, to enable them to prepare for future developments.

There are three main and related dimensions in the way that payments are made to doctors and hospitals:

- degree of bundling (grouping activities and services together in one payment)
- whether payment is set prospectively or reimbursed retrospectively
- how best to reflect the performance of the provider.

Across Europe, a common form of payment for doctors is a blend of fee-for-service and/or capitation (for primary care doctors) and/or salary (for doctors working in hospitals). In relation to hospitals in countries with a history of fee-for-service payment, the trend has been to introduce prospective payment using case-mix adjusted diagnosis-related groups (DRGs). For countries with a history of block budgets for hospitals, the trend has been to ‘unbundle’ payments and move towards DRGs.

 **DRG payment is gradually extending across more types of hospital care**

There is a growing trend for payers to use the payment system to encourage specific performance goals. This is a complex task and early efforts have been to introduce marginal changes to existing methods of payment to incentivise improvements in very specific aspects of the quality of care. Such initiatives are known as ‘pay for performance’ (P4P), and in the past have concerned payments to individual doctors, but are increasingly being developed for payments to hospitals or other facilities.

Basic payment mechanisms and trends

The most common way of paying for hospital care across Europe is using DRG-based prospective payment. DRG payment is gradually extending across more types of hospital care, to include more specialised (tertiary) services, mental health care, rehabilitation, outpatient and accident and emergency care. While DRGs represent a bundled payment (that is, cover a number of treatments/services), a general trend has been to increase the number and complexity of DRGs, leading to worries that,

as the number of DRGs increases, the number of cases in some DRGs may be low – which may lead to difficulty setting stable prices from year to year. As a result, in some countries, for example, the Czech Republic and the Netherlands, the number of DRGs has been reduced.

There is substantial variation between countries in the classification of DRGs used and how prices are set. Harmonising DRG systems across Europe is unlikely in the near future: the cost of collecting the information needed to develop such a ‘Euro-DRG’ system would be considerable; agreeing on the priorities for development of the DRG system across countries difficult; and the overall benefits unclear.

Historically, one method of paying hospitals in Europe was via a global budget. Relative to this, the impact of introducing DRGs has generally been to increase activity (admissions), reduce the length of stay in hospital and increase the total cost of care. Since many countries are concerned about their ability to control aggregate costs, they are now looking for ways to reduce incentives to increase hospital admissions. Some countries (Hungary, Spain and Sweden) combine payments to hospitals with DRG payments with a global budget or capped volumes. Others have introduced lower prices beyond a threshold, for example, in the English NHS emergency activity above the level in 2008/09 is now paid at 30 per cent of the standard DRG tariff.

Some countries, notably the Netherlands, are experimenting with episode-based payment – a fixed amount intended to cover the costs of providing some or all services delivered to a patient for a complete episode of care. Episode-based payment generally means the payment is made to two or more providers: for example, a hospital and its affiliated primary care doctors. Episode-based payment is intended to reward a pathway of care for an individual across providers – promoting more efficient use of expensive services (for example, hospital care, acute services), coordinated care and better quality outcomes by reducing complications and readmissions. In the Netherlands, an initial evaluation found that episode-based payment for standard care for patients with a number of common chronic health problems helped to improve both the coordination of care among health care providers and adherence to care protocols. But less positively, large price variations were also found that were not fully explained by differences in the amount of care provided and at a significant administrative cost (de Bakker and others, 2012). But as yet this is not a common payment method and is still to be developed and evaluated more fully.

 **an initial evaluation found that episode-based payment helped to improve the coordination of care**

Capitation payments give providers a fixed amount of funding per patient to cover some (partial capitation) or all (full capitation) of the medical needs of a specified group of patients for a specified period of time (usually one year). The payment is not linked to how much care is provided, giving providers more flexibility to spend resources on the care that they feel would achieve the best outcome for the patient (Whelan and Feder, 2009). In Europe, capitation payment is more common as a payment to primary care doctors for the care of a fixed panel of patients, usually blended with a fee-for-service element. Each country continues to develop its own unique blend, depending upon local history, culture and priorities.

Outside the United States (US), capitation payments to one or more institutional providers, as opposed to individual doctors, is unusual – although this concept is gaining interest with the desire to improve care coordination, particularly for those with chronic medical conditions. An example is the Alzira public–private partnership in Spain. The Alzira contract has been operating under a capitation budget covering hospital and primary care since 2003 (an early model without primary care included operated from 1990). The cost per patient is 80 per cent less than in districts with a traditional model of provision and reimbursement, but there has been no formal evaluation to establish whether the service is more efficient or offers better-quality care (Bes, 2009). The worry about capitation payment to providers is the potential for skimping on care, as quality is less measurable than cost, but interest in capitation is increasing as information systems develop and allow much closer scrutiny of quality, and as efficiency and care coordination become higher priorities, particularly in the care of people with multiple long-term conditions.

emerging evidence in Europe shows a positive impact on quality of P4P

Fee-for-service is now less commonly used as a way of paying hospitals, more for individual specialists working in hospital or for primary care doctors along with capitation payment. The impact of fee-for-service reimbursement is well documented – more activity is observed.

Pay for performance

To an extent all payment mechanisms are designed to pay for performance, but to align payments more precisely with payers' goals to improve the quality of care, a range of added so-called 'pay for performance' (P4P) schemes have been introduced across Europe. There remains a lot of uncertainty about the most appropriate structure of a P4P payment system, including exactly what indicator of performance should be used, how to measure achievement, who to reward and the value of the reward needed to motivate change. Across Europe, P4P mechanisms have been most commonly used alongside fee-for-service or capitation to incentivise self-employed doctors (usually in primary care) to improve the quality of care. Of the many examples outlined in this research report, the largest-scale implementation has been in England with the Quality and Outcomes Framework for paying general practitioners (GPs), which has had significant impact.

There are far fewer examples of P4P schemes for hospitals. But there are financial incentives for hospitals to offer higher-quality care. In England, a quality incentive scheme called the Commissioning Quality and Innovation (CQUIN) payment system links a proportion of a hospital's income with local quality improvement goals. In Germany, hospitals do not receive the full DRG payment if they are providing care below a volume specified: the threshold is set based on evidence that better clinical outcomes are related to the volume of care provided for a particular DRG. So far, the emerging evidence in Europe shows a positive impact on quality of P4P, although a review of controlled studies of P4P for doctors in the US found "little evidence" that financial incentives improved quality of care (Christianson and others, 2007; Scott and others, 2011).

Using payment mechanisms specifically to encourage the provision of good-quality integrated care

A huge challenge for health systems across Europe is how to improve the quality and efficiency of care for people with multiple care needs. Worries continue that the balance of care between hospitals, primary care and other settings is not optimal. For patients, payment methods may at worst reinforce and at best do nothing to change the balance of care. The aspiration is that more coordination of care can improve patient experience and outcomes, and reduce avoidable ill health and costs (in particular, hospital costs). Policy-makers are attracted to the idea of using payments to encourage better efficiency, not of individual providers, but across the health system. Several European countries are experimenting with bundled payments and P4P to encourage the delivery of more coordinated care for patients with multiple care needs. The type of care coordination encouraged differs significantly from incentivising different health professionals to work more collaboratively and in multi-disciplinary teams (France, Germany, Hungary and Italy) to developing managed care pathways for patients across a range of providers (Belgium, Germany, the Netherlands, Sweden and Switzerland) (Fisher and others, 2009; Gaál and others, 2011a, 2011b; Gerkens and Merkur, 2010; Thomson and others, 2011; Zweifel, 2011). The latter such initiatives are called value-based contracting and are most developed in the Netherlands.

A large number of prerequisites are needed for effective care coordination and it has, therefore, been difficult to assess the impact of these initiatives to date. Such initiatives are promising but the implementation challenges are considerable, for example, the information requirements and the need to overcome the strict organisational separation that exists between primary care and hospital services. Experimentation will progress over the next five years.

Conclusion

Most countries use a mixture of ways of paying for hospital and ambulatory care.

For hospital care, case-mix adjusted bundled payments (with prospectively set prices) are well established across Europe and are being expanded to cover more types of inpatient care. While having had an impact in Europe, with respect to increasing activity and reducing length of stay, DRG-type prospective payment may not by itself help to improve the quality of care (particularly the coordination of care for patients beyond hospital settings), or control overall costs of hospital care. Two important trends are worth noting: early experiments are occurring in some countries to supplement DRG payment with P4P incentives for the achievement of specific quality goals; and other countries are introducing volume caps and differential payment above a cap to contain total costs. Past evidence would suggest that this is likely to be preferable to a return to block budgets.

Payment systems for doctors working outside hospitals are usually a blend of fee-for-service and capitation funding. Research suggests that too heavy a reliance on fee-for-service or capitation is likely to reduce efficiency – a blend of these different approaches is most likely to strike a better balance between incentivising responsiveness to patient needs and quality with cost-efficiency and budgetary control. Most countries are continuing to experiment to find the right blend in line with changing circumstances and priorities.

The development of episode-based payment to cover a pathway of care for patients, coupled with a P4P element – value-based contracting – is promising and more experiments are likely in future. The requirements for successful implementation are challenging. For example, such payment systems can only develop if there is good quality data on activity, cost and outcomes: in most countries in Europe such data are weakest for some of the ambulatory and primary care based interventions, which are key components of the effective management of patients with chronic disease. Achieving greater value in health care means challenging the pattern of provision and service use, which is the product of the complex interaction of a range of factors: professional and public culture, regulatory systems, legislation and governance.

So, while payment mechanisms can help to overcome some of these challenges, they are only a part of wider change needed. Establishing DRG-style case-mix groupings for ambulatory and primary care-based interventions would be an important next step, as would the development of a robust set of measures of outcomes, and greater challenge of variations. It is in these areas that efforts across Europe could usefully focus in the short term.

Overview of trends in payment reform

Reforms to the payment system are often part of wider policies designed to improve value for money in health care. The context is very important, both in defining the goals of payment reform and in influencing their impact. Critical questions include: how might payment reform complement wider efforts to achieve value for money, and what is the most effective way to blend different payment methods?

Across Europe there are a limited number of ways to pay providers, as shown in Table 1. Doctors working in primary or ambulatory care are often paid through a blend of fee-for-service and/or capitation and/or salary (highlighted in red). Reforms have focused on achieving a better blend of these payments.

In countries with a history of paying for hospital care on a fee-for-service basis, the trend has been to increase ‘bundling’ of payments from fee-for-service (or *per diem* payment) to payment for services classified using the DRG case-mix system (highlighted in grey). In countries with a history of block budgets, the trend has been to ‘unbundle’ payments with a move towards paying for services using a DRG classification system.

‘Bundling’ refers to the degree to which the components of health care are grouped together for payment or paid for separately. Bundling covers two different domains – first, the activities that are grouped together into a meaningful package of care (diagnostic tests, inpatient procedure and follow-up care, for example) and second, the different inputs necessary to deliver care (drugs, nursing care, specialist care, overheads and the cost of buildings). Table 1 shows examples of the extent and type of bundling currently being used, with many countries operating many examples simultaneously. Indeed ‘blended’ payment is often the norm.

Table 1: Types of bundled payments to providers						
Bundled						Unbundled
Block budget/ salary	Capitation	Per period	Per patient pathway	Per case/ diagnosis/ procedure	Per day	Fee-for-service
Periodic global lump sum – independent of number of patients	Periodic lump sum per enrolled patient for a range of services	Periodic lump sum per patient diagnosed with a particular condition	Lump sum for all services required for a defined pathway of care	Payment per case based on grouping of patients with similar diagnoses/procedures or resource needs	Payment per day of stay in a hospital or other facility	Payment for each item of service and patient contact

Source: adapted from Department of Health (2011: Figure 8, p. 20) by Hurst and Charlesworth (forthcoming)

As well as bundling, another trend in payment reform is to link extra payments to very specific aspects of performance, usually the quality of care. These initiatives are known as ‘pay for performance’ (P4P) – they apply more commonly to payments to individual doctors, but are increasingly being developed for payments to hospitals or other facilities. Table 2 gives some examples.

Table 2: Examples of different options for ‘pay for performance’ incentives to providers		
Based on quality	<i>or</i>	efficiency
Based on achievement against absolute threshold		relative improvement
Rewarding (positive)		penalising (negative)
Value determined as a proportion of core funding		as a supplementary bonus over and above core funding

The structure of payment

Fee-for-service

The most common payment model for primary care and ambulatory care doctors across Europe is unbundled fee-for-service (see Table A1 in the Appendix), where payment is retrospective and based on the volume of the individual service delivered. This approach has been widely criticised as rewarding quantity rather than the quality of care, encouraging the over-use of lucrative services and the under-use of less well-reimbursed services and putting little value on the coordination of care or on primary prevention (which are not explicitly reimbursed) (Busse and Blumel, 2011; Fisher and others, 2003, 2009). Furthermore, the fee payable is often based on historic costs (in Germany and France, for example) (Maynard, 2005).



In many countries, DRG systems are now used as the payment system for most acute hospital activity

In some countries fee-for-service is used to prompt more activity, typically in primary care, in specific areas of preventive care, for example, delivering vaccinations in Ireland (McDaid and others, 2009) and cervical cancer screening in England.

Per diagnosis: prospective payment by DRG

Across Europe case-mix adjusted payments using the DRG classification system have become the norm for paying for hospital care. DRG systems were introduced to increase transparency over costs and activity, and improve efficiency, relative to fee-for-service or 'block contract' methods of payment.

In many countries, DRG systems are now used as the payment system for most acute hospital activity. In others, such as Austria, Ireland and Portugal, DRGs inform a system of budgetary allocation. Most countries using a DRG-based payment system have introduced it gradually over a period of years for a range of services, starting with acute inpatient care. For example, in Ireland approximately 80 per cent of public expenditures for inpatient hospital care are now covered by DRGs, in Portugal 80 per cent, Sweden 62 per cent, France 56 per cent, Finland 49 per cent and Estonia 39 per cent (Busse and others, 2011). DRG payments have gradually extended in some countries: they are now beginning to span payment for more specialised (tertiary) services, mental health care, rehabilitation, outpatient care and accident and emergency care.

In most European countries the DRG payment for hospital care includes the cost of specialist doctors, who in most countries are salaried employees of the hospital. Notable exceptions are in Belgium and in France (doctors working in private hospitals) where payments to the doctors are separate from the hospital cost and are based on fee-for-service payments. In the Netherlands, around half of doctors working in hospitals are independently organised and receive a fee per DRG.

Another general trend has been the increase in the number and complexity of DRGs. France has almost 2,300 case-mix adjusted groups, and in Germany there are now approximately 1,200 DRGs. Other countries that introduced DRGs later or more slowly have fewer; for example, Ireland, Poland and Spain all have less than 1,000 DRGs. The trend to more DRG categories is not universal and in both the Netherlands and Czech Republic the number of case-mix groups has been reduced from previously very large numbers.

2,300

Number of case-mix
adjusted groups in France

There has been considerable focus on the appropriateness of the case-mix groupings, reflecting concerns about the timeliness and level of reimbursement for new treatments and thus the impact of DRG systems on innovation, as well as worries about the scope for patient selection and the potential to skim on the quality of care. There are also concerns that, as the number of DRGs increases, the number of cases in some DRGs is low – which may lead to instability in pricing these DRGs appropriately from year to year.

DRGs were not initially developed as a pricing system and there is substantial and important variation between countries in how they use DRG-style classification systems for pricing. One issue is the methodology and range of costs used to price the DRGs. In Europe, there are three main approaches to setting the payments for DRGs:

- relative weights (France, Germany, Ireland and Portugal)
- monetary tariffs (England, the Netherlands and Spain)
- scores (Austria and Poland).

Another issue is how prices are subsequently set, in particular whether prices are fixed or negotiated. Some countries, such as England, have regulated prices for each DRG (a national tariff based on national average costs), while a few countries have adopted local price setting and competition. In the Netherlands both national and local tariffs exist. This is an active policy choice as the Netherlands seeks to introduce some price competition into the health care system.

Whichever approach to setting prices is used, most are rooted in an analysis of the historic average cost of treating patients within a DRG category. They are a form of benchmark pricing where the aim is for price to converge on the average. Countries differ in the rate at which they expect hospitals to converge towards this DRG price. Such a system incentivises those below average to lower their costs further (if it is possible to do so efficiently) in order to increase their surplus; and those above the average seek to bring their costs down to stem losses.

There is no country in Europe that follows this model without some modification. In most countries the average costs are adjusted by broad hospital type (such as teaching or non-teaching, or geography). In others there is a negotiation between the relevant payer and hospitals with costs above a set tariff. A number of countries take account of the overall resources available for health care in setting prices (as in England and France). Countries also differ in the range of costs they include in the prospective payment: in all countries operating (or revenue) costs of patient care are included, but in some countries infrastructure is included (England), while in others (Germany), such capital expenditure has been excluded and funded through separate means and under different rules. The system by which capital costs are funded and reimbursed will have a significant impact on the incentives faced by providers, and also on the scope for the provider system to respond to pricing incentives and adapt models of care. With the challenges of austerity and the need for new models of care across Europe, policy-makers need a much greater understanding of the advantages and disadvantages of different approaches to funding capital developments.

“ With the challenges of austerity... policy-makers need a much greater understanding of... different approaches to funding capital developments

The exacting burden of developing DRGs in different European countries, in particular the large information requirements, has led to some countries jointly developing a common DRG currency, as, for example, in the Nordic countries. Others – smaller nations or newer European Union (EU) member states – have chosen to implement a DRG system developed in other countries and modified this locally. This, along with the EU cross-border directive allowing EU patients reimbursement of care provided in EU member states in which they are not resident, has led some to discuss the merits of ultimately developing a ‘Euro-DRG’ applicable to all member states (Busse and others, 2011). The consensus to date appears to be that the complexity of such an undertaking – in particular in harmonising the information needed to develop such a system, as well as harmonising to some extent the objectives for the DRG system that would guide future development – means that development of a common Euro-DRG currency is unlikely in the near future.

Episode-based payments

An episode-based payment is a fixed amount intended to cover the costs of providing some or all services delivered to a patient for a complete episode of care – such as outpatients, inpatient care and rehabilitation. It is hoped that bundling payment for multiple services for patients should improve the incentives for better coordination of care: benefiting patients because of reduced ill health and adverse events; and benefiting providers through a reduction in avoidable costs.

In theory, episode-based payment rewards longitudinal patient-centred care across providers: promoting more efficient use of expensive services (hospital care, acute services, for example), coordinated care and better-quality outcomes by reducing complications and readmissions. Episode-based payment has been described as an ‘interim step’ between fee-for-service and full capitation, because it encourages different providers to work together to deliver the care for a particular episode (Crosson

and Guterman, 2009: p. 5). In 2010, the Netherlands introduced an episode-based payment system for diabetes care, chronic obstructive pulmonary disease care and vascular risk management. The health insurer pays a single fee to cover standard care for patients with no serious complications. It includes consultations with, but not usually treatment by, consultants. An initial evaluation found improvements in the organisation and coordination of care and better collaboration among health care providers and adherence to care protocols. Less positively, it found large price variations that were not fully explained by differences in the amount of care provided, and a significant administrative burden associated with information and communication technology systems (de Bakker and others, 2012).

Capitation

Capitation payments give providers a fixed amount per patient to cover some (partial capitation) or all (full capitation) of the medical needs of a specified group of patients for a specified period of time (usually one year). The payment is not linked to volumes of specific services, giving providers more flexibility to spend resources on the care believed to achieve the best outcome for the patient (Whelan and Feder, 2009). In Europe, capitation payment is more common as a payment to primary care doctors for the primary care of a fixed panel of patients, usually blended with a fee-for-service element. Outside of the US, capitation payment to one or more institutional providers, as opposed to individual doctors, is unusual – although this concept is gaining interest with the desire to improve care coordination, particularly for those with chronic medical conditions.

The Alzira public–private partnership in Spain is an example of this type of capitation payment. In Alzira, hospital and primary care services are provided by a private sector contractor for a capitation fee paid from the public health budget for all residents in the Alzira district. The Alzira contract has been operating under a capitation budget covering hospital and primary care since 2003 (an early model, without primary care included, operated from 1990). The cost per patient is 80 per cent less than in districts with a traditional model of provision and reimbursement, but there has been no formal evaluation to establish whether the service is more efficient (Bes, 2009).

In a capitation payment structure it is envisaged that ‘patients have their needs assessed when they enter the health care system and receive the care they need (and no more) from a coordinated team – and those teams would be encouraged and rewarded for providing high quality and efficient health care’ (Whelan and Feder, 2009: p. 23). These incentives are clear when patients enrol and so have the option to choose a different provider. If capitation is based on residence – as in the Alzira model – the incentive to provide high-quality efficient care is potentially weaker. Capitation payment can provide a strong incentive for care coordination (to maximise efficiency), primary and secondary prevention (to reduce expensive acute events and hospital admissions) and improvements in patient safety (to reduce the cost associated with complications and adverse outcomes following invasive procedures).

A full capitation model places the provider at significant financial risk, since, if the care needed costs more than the funds received through the capitation payment, the difference must be met by the provider. The higher the costs – for example, if hospital care is covered by capitation – the higher the risks, and this is part of the reason why capitation payment in Europe to date is not made to hospitals but to payers (who

largely bear the financial risk). In England, the Health and Social Care Act will give groups of primary care providers (grouped into clinical commissioning groups) a capitation budget with which to purchase most hospital care on behalf of their registered population, necessitating robust risk-pooling arrangements to be developed. In Germany, capitation (providing an average flat rate of €100 a year for every enrolled patient) has been used to incentivise family doctors to improve care for chronically ill patients (Thomson and others, 2011).

One major criticism of capitation is that there is often no incentive to improve the quality of care, rather the reverse. Partial capitation (covering primary care alone, for example) may encourage doctors to narrow the range of services they directly provide and refer more patients to hospital or other providers, shifting care costs on to other budgets and increasing their financial reward. However, a traditional partial capitation structure for doctors or groups of health facilities (as in disease management schemes) can be accompanied by a P4P element based on the quality of the services provided as outlined below.

Full capitation payment to a network of institutional providers as noted above is most developed in the US – for example, in the Kaiser Permanente system – and may grow in the developing Accountable Care Organizations set up by the Affordable Care Act 2010. Within the latter, some or all of the savings on the capitation budget can be kept by providers on condition that pre-agreed quality targets are met.

Assessing overall impact

A full and systematic review of the evidence on the impact of alternative payment systems is beyond the scope of this research report. The World Health Organization (WHO) has summarised the impact of the main types of payment methods against four high-level objectives (Table 3):

- preventing health problems (linked to integrated care)
- delivering services (which is linked to outcomes)
- responding to legitimate expectations
- containing costs.

The WHO (2000) assessment was based on evidence, but also some judgement, and as far as we are aware has not been updated in over 10 years. For example, while fee-for-service is a strong incentive for delivering services, it will have little effect on containing health care costs. On the other hand, capitation – where a provider is paid a fixed payment per person – will incentivise primary prevention of health problems and contain costs, but it may have a negative effect on the provision of services.

Table 3: Advantages and disadvantages of four traditional payment currencies

Payment methods	Provider behaviour			
	Prevent health problems	Deliver services and solve health problems	Respond to people's legitimate expectations	Contain health care and transaction costs
Global budget (and salary)	++	--	+/-	+++
Capitation (with competition)	+++	--	++	+++
Diagnostic-related payment	+/-	++	++	++
Fee-for-service	+/-	+++	+++	---

Key: +++ very positive effect; ++ some positive effect; +/- little or no, or variable, effect; -- some negative effect; --- very negative effect.

Source: adapted from WHO (2000: p. 106) by Hurst and Charlesworth (forthcoming)

Work for the pan-European Euro-DRG project has more recently examined the theoretical incentives offered by the three main hospital payment systems that are used across Europe: fee-for-service, global budgets and DRG payment (capitation is not included as it is not currently used to reimburse hospitals). Analysis by the authors of this work is summarised in Table 4.

Table 4: Theoretical incentives offered by three hospital payment systems

	Increase activity	Expenditure control	Improve quality	Enhance technical efficiency	Enhance allocative efficiency
Cost-based/fee-for-service	Strong	Weak	Strong	Weak	Weak
Global budget	Weak	Strong	Moderate	Weak	Moderate
'Pure' DRG-based hospital payment	Moderate	Moderate	Moderate	Strong	Moderate

Source: Busse and others (2011)

The empirical evidence exploring whether these potential gains have been realised in practice across Europe is mixed (see Table 5 for an overview of main research studies across Europe and the US). Overall, introducing DRG payment systems has been associated with a reduction in hospital average length of stay, an increase in hospital activity in countries with a tradition of global budgets (England, for example), but a decrease in activity in countries with a tradition of fee-for-service payment systems for hospital care (for example, the US). This is not surprising as global budgets provide incentives to 'suppress demand' so there are potential productivity gains to be realised from increasing demand when this incentive is reduced and the opposite is true for fee-for-service.

“ studies across Europe suggest DRG-based payment systems have been associated with an increase in total cost

Overall, studies across Europe suggest DRG-based payment systems have been associated with an increase in total cost, due in part to increased activity, but also to a reduction in unit costs (Busse and others, 2011). Whether this has improved system efficiency depends on a number of factors including: the impact on quality; the 'value' of the additional activity in terms of health gain; and whether there was cost-shifting (for example, with greater costs being borne in community and primary care from earlier discharge for patients) and gaming of the system (through upcoding, patient selection). Very few studies have examined the impact of prospective payment systems on system-wide efficiency.

Table 5: Hospital activity and length of stay under DRGs

	Country, year of implementation of DRGs	Study	Activity	Average length of stay
US 1980s	US, 1983	US Congress – Office of Technology Assessment, 1985	▼	▼
		Davis and Rhodes, 1988	▼	▼
		Guterman and others, 1988	▼	▼
		Kahn and others, 1990		▼
		Manton and others, 1993	▼	▼
		Muller, 1993	▼	▼
		Rosenberg and Browne, 2001	▼	▼
European countries 1990s/2000s	Sweden, early 1990s	Anell, 2005	▲	▼
		Kastberg and Siverbo, 2007	▲	▼
	Italy, 1995	Louis and others, 1999	▼	▼
		Ettelt and others, 2006	▲	
	Spain, 1996	Ellis and Vidal-Fernández, 2007	▲	
	Norway, 1997	Biøm and others, 2003	▲	
		Kjerstad, 2003	▲	
		Hagen and others, 2006	▲	
		Magnussen and others, 2007	▲	
	Austria, 1997	Theurl and Winner, 2007		▼
	Denmark, 2002	Street and others, 2007	▲	
	Germany, 2003	Böcking and others, 2005	▲	▼
		Schreyögg and others, 2005		▼
		Hensen and others, 2008	▲	▼
	England, 2003/4	Farrar and others, 2007	▲	▼
		Audit Commission, 2008	▲	▼
		Farrar and others, 2009	▲	▼
France, 2004/5	Or, 2009	▲		

Source: Euro-DRG project. For detailed data see Street and others (2011).

Pay for performance (P4P)

Over time it is clear that how payments are made to providers of health care, combined with the level of payment, can have an influence on the practice and behaviour of hospitals and doctors – intended and unintended. Policy-makers and funders have become more active to ensure that the method and level of payment are consistent with specific behaviours that they want to encourage, for example, by providing greater financial rewards to those hospitals and doctors judged to have performed well and less to those judged to have performed poorly.

 In England, NICE now helps design the P4P system for GPs

There are a number of uncertainties about the most appropriate structure of a P4P payment system, including exactly what indicator of performance should be used, how to measure achievement, who to reward and the value of the reward needed to motivate change. Many countries have set up national bodies to evaluate the effectiveness of clinical treatments, drugs, medical devices, procedures and interventions against the costs and to provide information which can then be used by doctors and purchasers to develop cost-effective care. For example, in England the National Institute for Health and Clinical Excellence (NICE) was developed in 1999, in Germany the Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen (IQWiG) was established in 2004, and in France the Haute Autorité de Santé (HAS) (Thomson and others, 2011) in the same year. In England, NICE now helps to design the P4P system for GPs, in particular to use information on the cost-effectiveness of care to design the quality metrics used.

Uncertainty about the optimal structure of P4P takes several forms. First, uncertainty exists on the **type** of performance indicator that would be most appropriate for P4P: should indicators be based on clinical quality, patient satisfaction or efficiency/cost-control measures, or all of these? Often P4P is based on clinical quality, encouraging evidence-based practice, but given the current economic climate more focus may be placed on rewarding efficiency in the future.

Second, agreement is yet to be reached on what to reward – should it be absolute (attainment of pre-determined performance threshold) or relative (improvement from a baseline measurement)?

Third, there are issues as to the extent to which current information systems can supply accurate enough data to measure the required aspects of quality and/or efficiency, including the capture of other factors that may explain differences in performance, for example, differences in case-mix (Lindenauer and Remus, 2007). Without accurate data and adjustment of relevant factors, the P4P scheme can be ‘gamed’ and therefore lose credibility in the eyes of the providers it is targeted on. A major limitation of P4P payments is the need to ensure that the payment structure does not result in

inequalities in care (as the easiest way to achieve high performance scores is to avoid sick or challenging patients) or result in the inappropriate treatment of patients who would not be eligible (that is, ‘over-use’ of services). Possible solutions include setting absolute targets at less than 100 per cent (to allow for those ineligible patients), setting relative targets for improvement or allowing inappropriate patients to be removed from the denominator (as in the UK General Practice Quality and Outcomes Framework).

“ there are issues as to the extent to which current information systems can supply accurate enough data to measure the required aspects of quality and/or efficiency

Fourth, the question of **who** to reward refers to assigning accountability for the performance measure and asks whether this should be the individual doctor, medical group or hospital. A system based on rewarding individual doctors would be difficult to implement because most patients with long-term conditions receive care from multiple doctors and the number of patients would be inadequate for accurate measurement. Whereas, a system focusing on specific institutional sites (hospitals and nursing homes) may risk reinforcing fragmentation and a lack of coordination of health service delivery.

100%

DRG payment withheld for ‘never’ events in England

Fifth, the **value** of the reward. As noted earlier, achievement of desired targets can result in supplementary payment or, more often, results in the payment of a proportion of funds that have been withheld from the capitation on condition of achievement. This proportion can vary widely, for example, in England the proportion of DRG payment withheld for quality in specific areas (described below) is 1.5 per cent, there is a 100 per cent withhold (or non-payment) for ‘never’ events (that is, rare and preventable errors such as wrong site surgery or instrument left in patient) or for emergency readmissions within 30 days, and a 70 per cent of tariff non-payment for each emergency admission beyond a pre-defined volume. In 2008, the Centers for Medicare and Medicaid Services in the US also adopted a system to enable non-payment to hospitals for avoidable complications. This includes ‘never’ events and other complications that were not present on admission, or have been shown in evidence to be largely preventable.

A survey of hospitals funded by the Centers for Medicare and Medicaid Services found that those offered a one to two per cent supplementary bonus for achieving high levels of performance, demonstrated greater improvements in quality than those receiving no incentives (Lindenauer and Remus, 2007). Whereas, in a survey of health maintenance organisations with P4P programmes, Rosenthal and others (2006) found that approximately one third awarded a bonus of less than five per cent, and one third a bonus of five per cent or more. The authors highlighted that a reward of approximately five per cent may not be possible without having an impact on baseline fee-for-service payment structures in the US.

These are complex questions and it is fair to say that there is experimentation across Europe, which is as yet inconclusively evaluated. What is clear is that costs of running a P4P system (for example, the need for accurate and timely patient-based information, costs of monitoring impact) should be set against the benefits in quality and efficiency (Lindenauer and Remus, 2007).

P4P for primary and ambulatory care doctors

Across Europe there are few examples of where P4P mechanisms have been used alongside fee-for-service or capitation to incentivise self-employed doctors to improve the quality of care (England, Estonia, France, Hungary – see Table A1 in the Appendix for examples) (Gaal and others, 2011a; Koppel and others, 2008; Thomson and others, 2011). In other countries there is little (Denmark, Germany, Sweden) or no (Italy, Norway, Spain) emphasis on quality in the payment mechanism (García-Armesto and others, 2010; Thomson and others, 2011).

In the UK, perhaps the biggest P4P system in the world, the Quality and Outcomes Framework (QOF), was introduced in primary care in 2004. A voluntary scheme, almost all practices across the UK participate because they receive a substantial proportion of income through the scheme. In England, primary care is relatively well developed, with each GP and general practice managing a registered population of patients and with an electronic medical record. Under this scheme GPs can earn points for activities in a range of areas: improving patient experience; improving the management and organisation of care; and additional services and treatment indicators (typically chronic disease management). Major improvements in aspects of care have been reported, for example, the maintenance of disease registers and screening of risk factors for patients with coronary heart disease, diabetes and stroke (McGovern and others, 2008a, 2008b; Simpson and others, 2006). Set up and managed by NICE, a more independent and transparent process for reviewing and developing indicators was commissioned by the Department of Health in 2009, in part to ensure that cost-effectiveness is taken into account when designing the indicators for which GPs will be paid.

 **the biggest P4P system in the world, the Quality and Outcomes Framework (QOF), was introduced in UK primary care in 2004**

As noted above, in England the recent Health and Social Care Act 2012 groups general practices into commissioning organisations (clinical commissioning groups) with responsibility for managing a risk-adjusted capitation budget for around 60 per cent of hospital care on behalf of their local population. They will do this as ‘commissioners’ (payers) of care, not as providers – and the scheme has a strict separation of the budget for commissioning hospital and community health services and GPs providing primary care, with no scope to shift resources between these different elements of care. The rules on savings are still to be worked out, but the intention is to encourage more cost-effective clinical practice through allowing some savings to be made by

practices if budgets are under-spent and if specific quality targets are met (the so-called 'quality premium'). In France in 2009, the National Health Insurance Fund implemented new GP contracts ('individual contracts for professional practice quality improvement' (*Contrats d'amélioration des pratiques individuelles* (CAPI)) where GPs receive a capitation payment of €40 for each patient with a chronic condition and an additional bonus payment of up to €5,000 a year for achieving quality indicators for chronic patient care (Thomson and others, 2011). Targets have been set for specific clinical areas including asthma, diabetes, hypertension, immunisation of older people, and breast cancer screening. Although initially opposed by doctors, after three months the contract had been accepted by 10 per cent of the GP population. To date, the average additional payment is €3,100 but has had a limited effect on changing clinical behaviour. For example, a positive improvement in the prevention and follow up of diabetes has been found but there was little over and above the national trend of improvement (because of national guidelines of care published), and no change in other indicators (flu vaccination and breast cancer screening) (Busse and Blumel, 2011).

Estonia also introduced a quality bonus payment system for family doctors to improve the prevention and management of chronic diseases and other priority areas including vaccination and mammography (Koppel and others, 2008). Doctors are free to choose whether to participate and in 2007, 60 per cent of doctors were enrolled. Doctors must submit annual returns on the number of eligible patients and their achievements to performance targets are monitored at a national level. Achievement of performance measures is rewarded with a €225 per month bonus on top of their per capita payment (Koppel and others, 2008). No information on evaluation of the scheme was found, but an evaluation of earlier incentives rewarding family doctors for reducing unnecessary treatment in Estonia was shown to have a positive effect on the quality of care and on chronic disease management (Atun and others, 2006).

In 2009 in Hungary, a performance payment system for family doctors was introduced based on quality indicators defined by the National Health Insurance Fund Administration (Gaál and others, 2011a).

In Germany, there is some emphasis on incentivising doctors with regards to quality as determined by structural measures within the Disease Management Programme; although there is a system of monitoring quality assurance within hospitals there is no financial incentive.

In Denmark, quality indicators are collected for doctors, but there are no economic rewards tied to performance (Thomson and others, 2011).

Sweden has had a national system of performance indicators at a county council level since 2006, and has used this to reward good-quality care. Although there is no national system of provider performance measurement, there are some independent initiatives that focus on individual doctors and hospitals. These are not linked to financial rewards but the information can be used to support P4P at a local level; for example, a component of a primary care doctor's pay is based on incentives for preventative care and to reward rational use of prescription drugs (Thomson and others, 2011).

As noted above, other countries have implemented financial incentives to reward doctors to control costs. For example, in Italy financial incentives are used to encourage

GPs to take on a gatekeeper role and for making decisions that make more efficient use of resources, such as prescription of certain medications and specialist referrals (Thomson and others, 2011).

In Ireland, an attempt was made to incentivise GPs to manage their pharmaceutical budgets more effectively by assigning them a drug budget based on underlying demographics of the practice population, and for any savings made to be split 50:50 between individual GPs and the practice for reinvestment. Encouragingly, there was no evidence of a detrimental effect on the quality of care and provision of treatment (Wiley, 2005), but there was also no evidence of making GPs work more cost-effectively and so the scheme was suspended in 2007, awaiting further evaluation (McDaid and others, 2009).

In Italy, financial incentives are used to encourage GPs to take on a gatekeeper role

In 2004, Hungary implemented strict controls to incentivise cost containment by introducing volume regulation of providers to try to reduce non-diagnostic referrals to specialist outpatient care and prevent unnecessary hospitalisations. The volume control meant that providers were eligible for full reimbursement for only 98 per cent of the activity in the previous year. If a provider within a single month had higher activity than expected then this was refunded at different levels. In 2007, the government introduced even stricter rules and any activity about the providers' limit was not reimbursed at all and this had a significant effect on reducing health expenditure and outputs (number of hospital discharges) (Gaál and others, 2011a).

Pay for performance for hospitals

The examples above relate to paying doctors for higher performance. There are far fewer examples across Europe of where there have been P4P schemes for hospitals, for example, as part of DRG payment. There are no adjustments for quality at present to the DRG systems operating in the Nordic countries, Austria, Estonia, Ireland, the Netherlands or Poland. Efforts instead appear to have been focused on expanding the coverage of, and refining, the DRG payment system. Quality of care in these countries is encouraged in other ways.

In England in 2009, quality incentives (known as Commissioning for Quality and Innovation (CQUIN)) were also introduced in acute care, mental health care, ambulatory care and community service provision. CQUIN makes a proportion of provider income conditional on the achievement of quality improvement. CQUIN payment is not directly linked to DRGs, but is an annual non-recurrent payment available to the provider if locally determined targets in any of three domains of quality – safety, effectiveness and patient experience – are met. Initially, the payment was 0.5 per cent of the total value of the annual contract with the payer, but this has now been extended to 1.5 per cent and will increase to 2.5 per cent for the financial year 2012/13 (DH, 2011).

There are no payments for ‘never’ events or emergency readmissions within 30 days after discharge that are related to the original hospital admission. There is also a 70 per cent reduced payment for emergency admissions above a specified volume.

In Germany, there is no direct adjustment of the DRG payment system for quality. However, there are minimum volume thresholds whereby a hospital does not receive the full DRG payment if providing care below a volume specified. In turn, the threshold is set based on evidence that better clinical outcomes are related to the volume of care provided in a particular DRG.

In Portugal, hospitals receive a bonus if the percentage of readmissions in the first five days after discharge is below a defined threshold.

In France, hospitals are paid less for inpatient care lasting **less** than a defined length of stay (although this has a potentially perverse effect).

Impact

The impact of P4P, over and above other schemes to improve the quality of care, remains unclear, in part because the specific mix of policies in a country will have significant influence. A recent systematic review of studies examining the impact of P4P schemes on chronic disease management identified observational studies from eight distinct P4P schemes (six from the US, one from Germany and one from Australia), two of which rewarded individual doctors with the remaining rewarding doctor groups and sickness funds for performance (de Bruin and others, 2011). Five of the eight schemes introduced P4P as part of a larger quality improvement programme, making it difficult to determine the effect of P4P alone. A small number of papers demonstrated improvements in health care quality (specifically clinical management and processes of chronic disease care, such as HbA1c (glycosylated haemoglobin level – a test of diabetes control) as a result of P4P, but none examined the effects of P4P on health care costs (de Bruin and others, 2011).

In 2011, the Cochrane Library published a systematic review of studies examining the effect of financial incentives to improve the quality of care provided by primary care doctors (seven studies were included: five from the US, one from the UK and one from Germany), six of which paid medical groups rather than individual doctors (Scott and others, 2011). The majority demonstrated that P4P had a positive effect on the quality of care in relation to screening and prevention studies, but highlighted concerns of selection bias, as primary care doctors can opt in or out of many of these schemes.

Both reviews highlighted the importance of considering the possible negative effects of P4P, where P4P may discourage clinical efforts on aspects of health care not rewarded by the scheme and the need for more robust study designs to examine the effect of P4P on quality of care.

A review of controlled studies, which compared P4P against non-P4P for individual doctors or doctor group practices in the US, concluded there was ‘little evidence that financial incentives improved quality of care’ while evaluations of P4P schemes ‘found improvement in one or more quality indicator’ (Christianson, 2007: pp. 11–12). This may reflect the difficulty in generalising results from evaluations of P4P to wider populations of doctors, since early adopters of P4P are voluntary and may not be typical. In addition, P4P schemes tend to be implemented alongside other efforts to improve care, so it is difficult to ascertain whether the improvement in care would

have been achieved in the absence of P4P (Christianson and others, 2007). There are also examples in the US that demonstrate that offering financial incentives to hospitals can result in modest improvements in care (Curtin and others, 2006; Lindenauer and Remus, 2007; Rosenthal and others, 2006) and that the improvements can generate savings in relation to programme costs (Curtin and others, 2006).

A recent evaluation of the UK's QOF P4P scheme highlights a further risk with such schemes: gaming. A study of the effect of the QOF scheme in Scotland found evidence that general practices may have been gaming the system of exception reporting, which enabled them to earn higher P4P payments (Gravelle and others, 2010). The CQUIN scheme in England is subject to a national independent evaluation, which reports in 2012.

However, there are concerns about the role of specific quality premia or 'withholds' within bundled tariffs. While these payments may signal that quality of care is of concern to funders, there are risks. This is because there is a lack of clarity about the relationship between quality and cost. Efficient pricing should be based on a good understanding of the cost of producing the desired quality with the optimal mix of input, priced appropriately. If this is how prices for bundled services are set it is not clear what impact P4P payments for a small subset of quality gains might have. If prices are set below the level at which desired quality levels can be provided, then there seems little point in having P4P. Furthermore, in countries where there is active contracting between the insurers/funders, quality improvement will be one element of contract specification and monitoring. In such a system, providers can compete for contracts on quality as well as price, again reducing the need for P4P payments. But in other countries payers (insurers or public funders) do not actively contract. In such systems, specific P4P quality premia or withholds may be an important tool to influence provider behaviour.

Using payment mechanisms to encourage the provision of good-quality integrated care

A notable trend across many European countries at present is to use bundled payments and P4P to encourage the delivery of better-coordinated care for people with chronic disease – one of the largest challenges facing health systems in Europe. The aspiration is for better integration of care to improve patient experience and outcomes but also help to reduce avoidable ill health and costs (in particular costs of hospital care).

The type of integration differs significantly from encouraging different health professionals to work more collaboratively and in multidisciplinary teams (Italy, Germany, Hungary and France) to developing managed care pathways for patients across a range of providers (Belgium, Germany, Netherlands, Sweden and Switzerland) (Busse and Blumel, 2011; Gaál and others, 2011a, 2011b; Gerkens and Merkur, 2010; Thomson and others, 2011; Zweifel, 2011). The financial incentives to encourage better-integrated care vary from:

- none (Italy, Switzerland)
- withholding proportional budgets (Germany)
- supplementary bonus payments per patient (France, Belgium)
- bundled payments (France, Germany, the Netherlands)
- providers rewarded with any savings made (Hungary).

Incentivising structural integration has been a focus in Italy, Germany and Hungary.

At the simplest level of integration, Italy introduced economic incentives to encourage solo practitioners to move towards working in group practices. There is greater emphasis on multidisciplinary teams including social care, home care and health education. The aim is to provide 24-hour access to fully coordinated care and avoid unnecessary use of accident and emergency departments. However, this is not accompanied by any additional funding, so implementation across regions varies (Thomson and others, 2011). The question arises, would this have been better implemented if supported by additional financial incentives?

In Germany, a push to incentivise multidisciplinary working was supported by financial incentives. From 2004 to 2008, statutory health insurers (SHIs) held back one per cent of ambulatory and hospital care budgets to incentivise providers to develop coordinated care (Busse and Blumel, 2011). Providers keen to recoup the one per cent lost revenue did develop integrated care projects, however, the majority were examples of integration across hospital and rehabilitation services, few included other

health sectors and many were rejected because they ‘simply replicated conventional care’ or the cost efficiencies were yet to be determined (Greb and others, 2006).

A successful example of incentivising providers to deliver more efficient care is *Gesundes Kinzigtal* in South West Germany. Here a single regional health management company works with health care providers and SHIs to provide an integrated model of care. Bundled payments (based on a combination of payment through SHI, fee-for-service and performance against quality measures) are made to health care providers, and any profits resulting from more efficient care are distributed across providers (Busse and Blumel, 2011).

Bundled payments are being used in the Netherlands to incentivise organisations to work together to improve care delivery across ambulatory settings for three specific patient populations: diabetes (introduced in 2007); chronic obstructive pulmonary disease (COPD); and vascular risk management (introduced in 2010). The decisions about services to be included within the bundled payment were made at a national level and some indicators of quality were included (Busse and Blumel, 2011). An evaluation has demonstrated some improvement in care delivery processes, but it is too early to draw conclusions about the effect on quality or costs of care (Fisher and others, 2009).

In 1999, in response to rising health expenditures, Hungary launched the Care Coordination System to incentivise more coordinated work and provide better care for patients. Health care providers (groups of primary care doctors, outpatient specialists and hospitals) took on responsibility for the health of a population group with the family doctor acting as the care coordinator, and by 2005 the system covered 20 per cent of the population. The provider group was assigned a virtual risk-adjusted budget and any savings made at the end of the year were paid to the group to be used for reimbursement and investment (Gaál and others, 2011a; 2011b). There was no proper evaluation of the scheme, though there were indications of savings made by improved coordination, yet it was criticised for lack of transparency and inequitable distribution and stopped in 2008 (Gaál and others, 2011a).

In France, individual doctors (primary care and specialists) are compensated for providing coordination of care for chronic patients (€40 per patient) (Thomson and others, 2011). In January 2008, a five-year scheme to improve preventative services and care coordination in primary care was implemented. These range from supplementary remuneration schemes to fee-for-service and were made available to group practices (which consist of groups of self-employed medical and paramedical health professionals on a single dedicated site) (Lorenza and others, 2010). France has also considered four different funding mechanisms to incentivise group practices, referred to as ‘Multidisciplinary Health Houses’, to improve accessibility of care, care coordination and multidisciplinary working. The schemes are currently being piloted and include: fee-for-service payment to professionals to include P4P against quality and coordination indicators (under development by the French National Authority of Health); incentive payments for new services; incentive payments for professional cooperation; diagnoses-related bundled payments (Busse and Blumel, 2011).

Incentivising clinical integration through care pathways and disease management programmes has also been a focus in Germany and Switzerland.

The role of insurers incentivising integrated care is illustrated in Germany where, traditionally, sickness funds have little opportunity to contract directly with providers operating through a system of block contracts. Recently there has been more of an emphasis on and levers provided to SHIs to improve quality and cost-effectiveness of care, and care coordination. In 2007, sickness funds were given financial incentives to enrol patients into disease management programmes (DMPs) to improve coordinated evidence-based care of chronically ill patients. The DMPs are modelled on evidence-based treatment and currently exist for diabetes (type I and II), breast cancer, coronary heart disease, asthma and COPD (Thomson and others, 2011); they are regulated and have to be evaluated every three years (Greb and others, 2006).

Recent evaluations of the DMPs for diabetes suggest they have been effective in delivering higher-quality, more integrated care (Rothe and others, 2008), with improvements in patients' quality of life (Ose and others, 2009). DMPs are closely linked to the 'risk structure compensation' mechanism for SHIs (Busse, 2004). The financial incentive for SHIs is to receive a higher payment from the risk-adjustment scheme if they provide and can incentivise doctors to enrol patients in the DMP scheme; if they do not provide DMPs, or provide DMPs that doctors do not enrol patients onto, the SHI receives fewer payments (Greb and others, 2006). It receives administration compensation of €168 per person per year for each enrollee in a DMP, to try to improve care coordination between providers and ambulatory care. GPs received a flat rate of approximately €100 per year for each patient enrolled in a DMP (Thomson and others, 2011), but there are no performance-linked payments. Despite the investment and drive to develop DMPs they remain to represent quite a low proportion (approximately eight per cent) of all SHI-insured patients (Thomson and others, 2011). Implementation was slow, doctors were reluctant to lose professional autonomy by having to follow guidelines (Greb and others, 2006) and there was concern about the high administrative costs associated with developing and reviewing guidance.

A similar situation has been reported in Switzerland, where doctors are hesitant to be involved in 'managed care plans' as they are not compensated for the potential impact on their fee-for-service income and there are concerns about restricting working hours and the flexibility to deliver care as they see fit (Zweifel, 2011). Patients are incentivised to enrol in managed care plans via a 20 per cent reduction in their insurance premiums, but uptake is lower than expected because of perceived limitations on provider choice (Zweifel, 2011).

In England, there have been many initiatives to encourage integrated care across primary, secondary and social care, but none fundamentally changing the payment currencies to these providers. There is no payment for emergency readmissions within 30 days of a related initial admission, encouraging hospitals to work with providers in the community to reduce the risk of readmission. As yet, the impact of this policy has not been fully assessed.

Busse and Blumel (2011) reviewed payment systems to improve the quality and efficiency of care, with a specific focus on integrated care and care coordination for patients with chronic conditions. They argue that payment systems tend to incentivise either care coordination with no regard for quality, or quality but without incentives for care coordination. There are examples such as Hungary (see above) where both coordination and quality are rewarded within the same payment structure designed to

incentivise the provision of integrated care. Busse and Mays (2008) set out a number of requirements for effective payment mechanisms in health care if the quality and efficiency of care for people with chronic, longstanding disease (for which integration of care from different providers is important) are to be encouraged. These are as shown below in Box 1.

Box 1: Prerequisites for payment systems to be optimally effective in encouraging high-quality and efficient care in people with long-standing chronic disease

- The ability *ex ante* to identify and stratify patients in terms of severity and requirements for care, and the ability to monitor the outcomes of care as they relate to performance and payment.
- The availability of widely accepted evidence-based or -informed guidelines or protocols defining 'appropriate' and/or 'cost-effective' care, and the ability to implement these.
- The development of carefully chosen, risk-adjusted performance measures, where improvement will produce measurable improvements in the health of enrolled patients. These should be as close as possible to the end of the causal chain from processes to outcomes.
- Systems that can measure and assess the structure, process, quality and outcomes of care *ex post*.
- Motivation of doctors and other staff to empower and support their patients to manage their chronic disease.
- An integrated and flexible workforce.

Source: adapted from Busse and Mays (2008)

Crucially, Busse and Mays argue that variability in the existence of these prerequisites in different countries in part explains why the impact of different payment schemes such as those described in this research report have had such mixed results.

Discussion

The structure of payment

In response to the macro-economic outlook across Europe, improving the efficiency and productivity of health care systems is a pressing priority. This will require reform to payment systems.

Two clear trends emerge. First, over the last decade increased hospital activity was seen as a positive feature of payment in many countries (for example, in the English NHS to tackle the backlog of long waiting lists). But, for the next decade many countries are concerned about their ability to control aggregate costs. Countries are now looking for ways to adjust payment systems to modify the incentives to increase activity. Reimbursement systems that combine DRG payments with a global budget or capped volumes are emerging in some countries (Hungary, Spain and Sweden). In others, non-linear pricing is being introduced to change incentives at the margin (for example, in the English NHS emergency activity above the level in 2008/09 is now paid at 30 per cent of the standard DRG tariff).

Cost control is an important feature of health care systems with a significant element of public funding or compulsory insurance, however, alone it will not deliver sustainable health care systems. If cost control is achieved at the expense of quality and responsiveness, policy-makers and funders will come under increasing pressure to address service weaknesses and may have to find additional funding. So the second clear trend is that many countries are also adjusting the payment system for hospitals to sharpen the focus on specific aspects of performance – so-called P4P.

 **Countries are now looking for ways to... modify incentives to increase activity**

Achieving greater efficiency and value will require reform and rethinking the basis of pricing for payments. Countries differ in the approach they take to setting the payment rate or price for activity. Price is an often overlooked issue in the analysis of payment reform, but it is fundamental. If prices bear little relation to the efficient cost of production, even if all providers converge their costs on the prospective price, the payment will not maximise hospital efficiency. Too high a price paid may discourage efficiency, and too low a price will tend to reduce quality. But pricing bundles of hospital care at the efficient level (so-called best-practice prices) may be very destabilising to individual providers and would need to reflect the factors driving structural costs over which providers have no control. It is also technically challenging, as it requires detailed information on efficiency, which includes not just data on input mix but also quality.

The English NHS is beginning to implement some tariffs that attempt to more closely reflect efficient care (mainly technical efficiency) through the adoption of best-practice tariffs for a small number of services where there is robust evidence about optimal models of care (DH, 2012). The impact of this initiative is subject to an ongoing evaluation. Extending this approach has considerable attractions but it is dependent on robust data on costs (which are in short supply) (Monitor, 2012), but also evidence – and clinical agreement – about what constitutes good practice. The analysis of such evidence has typically been the role of health technology assessment (HTA) bodies such as NICE in England and the Swedish Council on Health Technology Assessment (SBU) in Sweden. This suggests that HTA bodies may have an important role to play in reimbursement systems in future, but also that countries without the institutional framework for HTA will find it more difficult to use this approach.

 **Achieving greater efficiency and value will require...
rethinking the basis of pricing for payments**

Rewarding value

Efficient pricing would sharpen the incentive on hospitals to improve their productivity, but in order to consider the value of the activity being reimbursed, system-wide productivity requires a focus beyond cost (Fielden and Mountford, 2011). The value of any activity undertaken in hospitals depends on both the quality of the health care provided by hospitals and the impact of such health care on patients' health. Importantly, this is not just an absolute question (is the patient's health improved?) but also a relative question: how does the improvement from this form of care compare with other forms such as care outside the hospital by primary care, or in many countries, ambulatory care specialists?

With the rising burden of chronic disease and increasing numbers of frail elderly, countries are examining whether their historic mix of services and balance of treatment between hospitals and primary or ambulatory based services is optimal. Across Europe payments are generally only bundled for care in the acute care setting (hospitals) and then often only for one episode of care with associated outpatient and follow-up activity often being billed separately. This form of payment may improve the incentives on hospitals to manage acute care more efficiently but it does not address the system efficiency between hospitals and other settings and providers. This is challenging as in most countries the information on costs and activity in settings outside hospitals is limited.

A number of countries are now attempting to extend prospective payment approaches to other services – for example, in the English NHS and Germany, for mental health services from 2013 onwards. This is a first and vital step towards bundling payments across settings to define episodes of care that are more meaningful, particularly for patients with chronic disease.

A further development is to link payments with the quality or value of that care across different care settings, by making reimbursement levels conditional on achieved value.

In the US, this has led to interest in new payment models such as accountable care organisations for publically funded Medicare or in the private sector, alternative

quality contracting (Mechanic and others, 2011). The detailed design of these systems is rooted in the specific features of the US system (separate funding of doctor and hospital and limited primary care) but the underlying challenge is the same: to shift payment from reimbursing pre-existing providers and institutions to focus on the value to patients. Value is derived by optimising the volume, mix and quality of health care providers at the lowest cost commensurate with those performance standards.

 **A number of countries are now attempting to extend prospective payment approaches**

As currently conceptualised, health insurers or funders would define ‘blocks’ of services – such as maternity, acute trauma care, care for the frail elderly and chronic care – that would stretch across a number of care settings and providers. They would then define a set of meaningful outcome standards for patients in these blocks and then negotiate contracts to achieve these standards with a mix of capitation payments or per-episode payments depending on the block agreed.

Many of the approaches to value-based contracting being developed in the US or discussed in the European literature have a strong element of capitation funding. Capitation is widely used across Europe as a substantial component of funding for primary care. It is not widely used for hospital care (with the exception of the Alzira contract in Spain described above). Extending capitation to hospitals can incentivise the hospital to reduce inappropriate admissions and to support preventative health care. Both of these are highly desirable, especially in a system like the US where specialists working in hospitals are paid on a fee-for-service basis and over-use of care may be a problem.

Although there are obvious theoretical attractions in bundling payments across settings to cover a wider range of services (some of which may be efficient substitutes for hospital care) and to reward value, there are important issues to consider.

First, there are significant practical challenges to overcome. These include the need for at least:

- an entity to be accountable for both the financial payment and outcomes
- hard and soft infrastructure across care settings such as shared information technology systems, data on cost and quality, aligned clinical governance, workforce models and shared organisational culture
- the availability of quality and outcome metrics across the bundled service
- methods of risk and case-mix adjustment across services and organisations with sufficient size to manage risk at this level
- allowance in the regulatory regime for reduced patient choice of provider if consolidation results from value-based contracting (Center for Post-acute Studies, 2009).

At present, this necessary supporting health-system architecture to develop value-based contracting is undeveloped in many countries. For example, while the Netherlands has

a system of competing insurers that are able to enter into contractual arrangements with providers for price, most European countries do not have commissioners or active purchasers of health care that can agree exclusive arrangements with providers. In the main, insurers reimburse and do not actively contract.

Many countries simply do not have the information technology and clinical governance infrastructure to allow the capture of information on value or outcomes across a care pathway for individual patients. This is a significant challenge especially for non-hospital providers for which there are less data collected. Again this challenge should not be underestimated if contracting is to be truly based on value.

Furthermore, there may be strict professional demarcations that mitigate against working across boundaries. In particular, in much of Europe there is a strict separation between hospital care and primary and ambulatory care (in many cases underpinned by legislation). In most of Europe, doctors who work in hospitals do not work in independent ambulatory care settings and *vice versa*. Doctors in hospitals tend to be salaried employees (in many cases hospital doctors are local government or state employees) where large proportions of hospitals are publically owned, whereas employment arrangements for community-based doctors are more often private, even if their patients are publicly funded or funded from statutory insurance. There is therefore no ready entity – such as the large multi-specialty groups in the US, which include doctors working exclusively in the community and doctors who work across community and hospital settings – to accept a bundled payment. Moreover, ambulatory and primary care doctors in Europe tend to be organised in small groups, which are too small to accept the financial risk (positive and negative) associated with very broad, bundled payments.

In the US, a series of pilot projects to test bundled payments has been introduced but has faced serious challenges of the sort noted above. One of these projects is the PROMETHEUS programme led by the Health Care Incentives Improvement Institute. PROMETHEUS seeks to bundle services for a single condition and covers a wider range of services that would typically be used by patients with that condition (hospital, doctors, laboratory, pharmacy and rehabilitation facility). The bundled payment has three components: an evidence-informed base payment, patient-specific severity adjustments and an allowance for potentially avoidable complications (de Brantes and others, 2009). An evaluation of this programme found that while conceptual support for the principle of bundling payments is strong, there are significant challenges in implementing such programmes. PROMETHEUS was tested at three sites; in two of these the bundled payments were for chronic conditions (including COPD, diabetes, asthma, hypertension and heart disease). The programme started in 2008 with volunteers committed to the concept of bundled payment but by May 2011 none of the participants had succeeded in using the system as a payment method and no bundled payment contracts had been agreed between payers and providers. A major hurdle was the exacting information requirements, difficulties in reaching agreement on complications and underdeveloped contracting expertise and tools for bundled payments (key issues such as how to deal with failure and financial losses and reluctance of payers to share savings with providers) (Hussey and others, 2011).

In countries where hospitals are public bodies and there is limited patient choice, there is limited transfer of financial risk with a capitation budget (if the hospital overspends the public health budget it is still liable for the costs). In systems with low levels of competition, hospitals may respond to capitation budgets in the same way as a block budget by skimping on appropriate treatment or quality, since their income is in effect not at risk and patients cannot switch provider. Furthermore, patients may not readily fit a service block, but may have more than one clinical condition, which adds further complication to the notion of adding value.

These challenges can all be overcome, but the likely prize of greater value or efficiency would need to be worth the cost. Perhaps as a result of these practical challenges, value-based contracting is not yet being implemented in Europe, although there is significant interest. As yet there are few examples of attempts at more innovative models of bundling of services across settings beyond the traditional block budget in Europe. The exception is the Netherlands, which has established a programme of bundled payments in four chronic disease areas but while these payments include services that cross settings they do not include inpatient acute activity, which may be associated with the patient's chronic condition.

Conclusion

Most countries use a mixture of payment systems to pay for hospital and ambulatory care. Such blended payment systems have been repeatedly found to be more likely to contribute to achieving the goals of high-quality, affordable care.

For hospital care, case-mix adjusted payments (with prospectively set prices) for hospital care are a well-established feature of reimbursement systems across Europe and are being expanded to cover more types of inpatient care. While DRG systems have had an impact on increasing activity and reducing length of stay, DRG-type prospective payments may not contain enough incentives to improve the quality of care (particularly the coordination of care beyond hospital settings) or control overall costs of hospital care. The efficiency incentives of DRG payment systems are now being combined with new approaches to contain the risk of activity levels increasing at unaffordable rates. Past evidence would suggest that this is likely to be preferable to a return to block budgets.

Early experiments are occurring in some countries to supplement DRG payment with P4P incentives for the achievement of specific quality goals. There is considerable experimentation as to the exact form of P4P and uncertainty about the degree to which P4P incentives impact on quality of care.

 **Health care systems across Europe need to tackle the system-wide inefficiencies in the balance of care provided between hospitals, primary care and other settings**

Payment systems for doctors working in ambulatory care tend to be a blend of fee-for-service and capitation funding. Research suggests that too heavy a reliance on fee-for-service or capitation is likely to reduce efficiency. Payment systems that blend these different approaches are most likely to strike a better balance between incentivising responsiveness to patient needs and quality with cost-efficiency and budgetary control. Again, P4P is being experimented with, in particular, to encourage doctors to improve care for patients with long-term medical conditions.

Health care systems across Europe need to tackle the system-wide inefficiencies in the balance of care provided between hospitals, primary care and other settings. The current payment systems are seen, at worst, to reinforce and, at best, to do nothing to change these inefficient patterns of care. Many people are attracted to the idea of linking payment systems to the achievement of system efficiency through either value-based contracting (typically with capitation funding) or extending bundled payments, which cover pathways of care and straddle organisational boundaries (Berg, 2012).

How best to set prices to encourage value for money is an under-researched area, and there is considerable variation in practice across Europe.

Payment systems are an important policy tool for payers and regulators, but it is important for policy-makers not to overestimate the potential impact of payment reform in achieving noticeable gains in quality and efficiency. The pattern of provision and service use in health care is the product of the complex interaction of a range of factors: professional and public culture, regulatory systems, legislation and governance. Payment mechanisms are important but only a part of this wider picture.

The goal of payment reform should be to align financial incentives with the goals of the system – linking payment to value. Value in health care has many dimensions and health care covers a wide range of services with different attributes. Health systems will need to deploy a range of different payment methods, but the optimal blend will need to evolve and is likely to be specific to individual countries.

Payment systems can only develop if there is good-quality data on activity, cost and outcomes. In most systems such data are weakest for some of the ambulatory and primary care based interventions, which are key components of the effective management of patients with chronic disease. Establishing DRG-style case-mix groupings for more of these services would be an important next step, as would the development of a robust set of metrics on outcomes, and greater challenge of variations. It is in these areas perhaps that efforts across Europe should focus as a priority.

Finally, if they are to be effective, reforms to the payment system need to be part of a wider programme of reform. If health care systems require widespread structural changes, such as the reconfiguration of hospital services and primary care, these will not be achieved by payment reform – they require a more systemic approach including service planning, capital funding and workforce redesign and redeployment.

Appendix

Table A1: Different structures of payment used in a selection of European countries

Country	Type of doctor					Structures of payments in use				
	General practitioner/family doctor	Specialists (outpatient)	Hospital doctor (inpatient)	Ambulatory doctor	Fee-for-service	Pay for performance (year introduced)	Bundled payments	Capitation		
Belgium (Gerkens, 2010)	Self-employed. FFS	Self-employed. FFS	Self-employed. FFS		X		Care pathways			
Denmark (Thomson, 2011)	Self-employed. Capitation (30 per cent) and FFS	Self-employed. FFS and OOP individual rates			X			X		
England (Thomson, 2011)	Private contractors. Salary, capitation, FFS and P4P	Salaried	Salaried. CQUIN		X	QOF (process and outcome) (2004) CQUIN (2009)		X		
Estonia (Koppel, 2008)	Self-employed. Capitation (70 per cent), FFS (14 per cent) and bonus payments	Salaried	Salaried		X	Reward for prevention and management of chronic disease (2006)		X		
France (Thomson, 2011)	Self-employed. FFS, DP individual rates, P4P (CAPI)	Self-employed. FFS, OOP individual rates, P4P (CAPI)	Salaried		X	CAPI (2009)				
Germany (Thomson, 2011)	Self-employed. FFS, DMP	Self-employed. FFS	Salaried	FFS	X	<i>Kinzigal</i> (rewarding structural and quality measures)		DMP		
Hungary (Gaal, 2011a)	Self-employed. Capitation and DP, P4P	Self-employed. FFS and DP	Salaried and DP	Self-employed. Capitation and DP	X	Related to quality measures		X		

(Appendix continued)

Ireland (McDaid, 2009)	Self-employed. Capitation and FFS (out of hours, vaccination)	Salaried	Salaried	Salaried	X	X (based on age, gender and distance from surgery)
Italy (Thomson, 2011; Lo Scalzo, 2009)	Self-employed. Capitation and FFS	Self-employed. Capitation and FFS	X	X (higher payments for those aged 75+yrs and under 14)	X	X (higher payments for those aged 75+yrs and under 14)
Netherlands (Schäfer, 2010; Thomson, 2011)	Self-employed. Capitation and FFS (some P4P)	Salaried	Salaried	X	For some diseases 'integrated care groups'. Some insurers can reward performance	X (for each patient on practice list)
Norway (Johnsen, 2006; Thomson, 2011)	Self-employed. Capitation, FFS and OOP.	Salaried	Salaried	X	None	X
Spain (García-Armesto, 2010)	Salaried and capitation	Salaried	Salaried	None	None	X (for registered patients)
Sweden (Glenngård, 2005; Thomson, 2011)	Capitation, FFS and P4P	Salaried	Salaried	X (for each visit)	Promoting prevention and efficient prescribing	X
Switzerland (Thomson, 2011)	Capitation (if managed care plan) or else FFS	FFS	FFS	X	None	X (for managed care plans)

Abbreviations: CAPI Contrats d'amélioration des pratiques individuelles; CQUIN Commissioning for Quality and Innovation; DMP disease management programmes; DP direct payment (for example, out-of-pocket charges); FFS fee-for-service; P4P pay for performance; OOP out-of-pocket payment; QOF Quality and Outcomes Framework

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