

# The role of primary health care in incentivizing policy outcomes: lessons from the U.K. experience

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## Abstract

This paper discuss the role of primary health care in the health care system. We look at the role of primary care, in particular its role in disease management for chronic disease, which is the major concern for older people. Then we look at two incentivizing policies that have been tried in the UK for improving system efficiency in terms of cost containment and quality improvement. The first policy is the “Fundholding budgets for general practice”; the second is the “Pay-for-Performance in primary care”. This paper concludes that the development of primary care is a policy area well worth considering as a means of sustaining the healthcare system challenged by population ageing and economic resource limitation, but with cautions about the pitfalls that can arise in this area.

[**Key words**] primary care, disease management, fundholding, pay for performance, the UK

## 1. Introduction

Population ageing and increasing demand for care for older people has become an important policy issue in the UK, Japan, and other developed countries (Curry, Holder, and Patterson, 2013)<sup>1</sup>, though none of nations or systems have any complete answers to this problem. Among potential options, the role of primary care and its possible future reforms could be a key to improving the quality of care for older people, while controlling the costs of that care (Beales and Smith, 2012)<sup>2</sup>. Although primary care would not be a complete solution to the problem, there are some elements of primary care that may be very useful and effective for every health system. There are also elements of primary care, certainly as it is practiced in the UK, that could provide resources from which we could draw policy lessons to strengthen healthcare systems and address their weaknesses.

This paper discuss the role of primary care in healthcare system and its incentivizing policy outcomes. In the first section, we look at the surrounding environment of primary care. We discuss primary care, in particular its role in disease management for chronic disease, which is the major concern for older people in section 2. Section 3 addresses the role that incentives play in the way that primary care functions. Then we look at two policies that have been tried in the UK for improving system efficiency, which may have relevance to any health system. The first policy is the “Fundholding budgets for general practice”; the second is the “Pay-for-Performance in primary care”. The paper concludes that the development of primary care is a policy area well worth considering as a means of sustaining the healthcare system challenged by population ageing and economic resource limitation, but with cautions about the pitfalls that can arise in this area.

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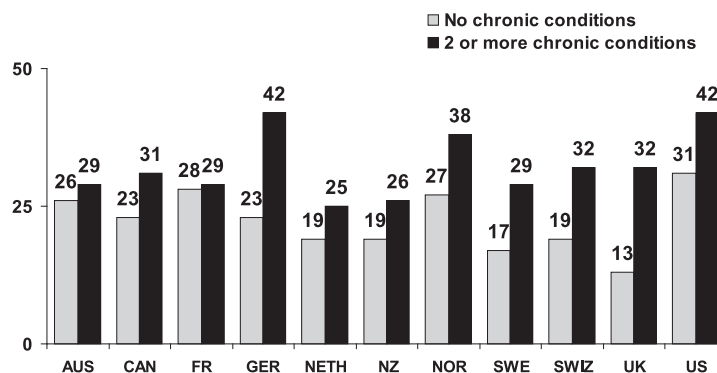
## 2. Primary care and general practitioners in the UK, and their roles

In the UK, primary care has played a central role in the health system that has evolved since the creation of the National Health Service in 1948. Most general practices are small independent businesses with a contract from the public payer (the National Health Service). They are funded with a mix of fixed capitation payments per head of the population that is registered them and some additional fee-for-service payments, including performance-related rewards, which account for about 20% of their income (Smith and York, 2004)<sup>3</sup>.

Primary care has both a fundamental role and a potential role. As a fundamental role, primary care practices coordinate the care of individuals, through monitoring, promoting health, preventing disease, and prescribing medication. As in most systems where primary care plays a leading role, primary care physicians act as gatekeepers to secondary care.

Moreover primary care physicians in England are increasingly taking a fundamental role in organizing the local health care services, such as hospital services. They have control of local budgets for much of the health system. As a potential role, there are arguments that primary care can improve efficiency in the healthcare system, and control costs. In addition, many primary care organizations do minor specialist treatments, which reduces the burden on hospitals.

One fundamental role of general practitioners (GPs) is disease management. "Disease management" is a rather vague term. In this paper, it can be described as monitoring a chronic disease to ensure that it is under control, and that any requirements of the patients are met, and also to prevent unnecessary use of secondary care. It is intended to improve the health of the individual patients with chronic conditions and reduce unnecessary specialist costs.



source: Schoen and Osborn (2010)

\* : Test results/records not available at time of appointment, received conflicting information from different health professionals, and/or doctors ordered test that had already been done.

Figure 1. Coordination Problems\* in the Past Two Years, by Number of Chronic Conditions

Figure 1 shows results from a survey undertaken by the Commonwealth Fund (Schoen and Osborn, 2010)<sup>4</sup> every three years of ordinary citizens in eleven countries. The survey asks people about problems they have experienced in the coordination of their care over the last two years. The left bar in each country shows patients with no chronic disease, and the problems they have had with coordination of care processes. There is quite a lot of variation between countries. However, the countries that have well-developed primary care like the UK tend to get better results in this domain than other countries. The US, as in so many respects, is an outlier. However, for patients with two or more chronic conditions, the results are not so good for the UK or indeed for most countries. Overall, one-third of people with chronic diseases feel there are coordination problems.

The second issue is unnecessary use of secondary care. We have some data on this from the OECD Health Statistics 2014<sup>5)</sup> for three chronic diseases: asthma, COPD (Chronic obstructive pulmonary disease), and diabetes. Theoretically, much hospitalization for these conditions is avoidable if the disease management in primary care is of adequate quality. Thus, the number of admissions for these chronic conditions in OECD countries could be a rough index of primary care quality.

Figure 2 shows all hospital admissions with a principal diagnosis code of asthma. Japan is ranked towards the bottom. Countries such as Korea have a particularly high rate of hospitalization for asthma.

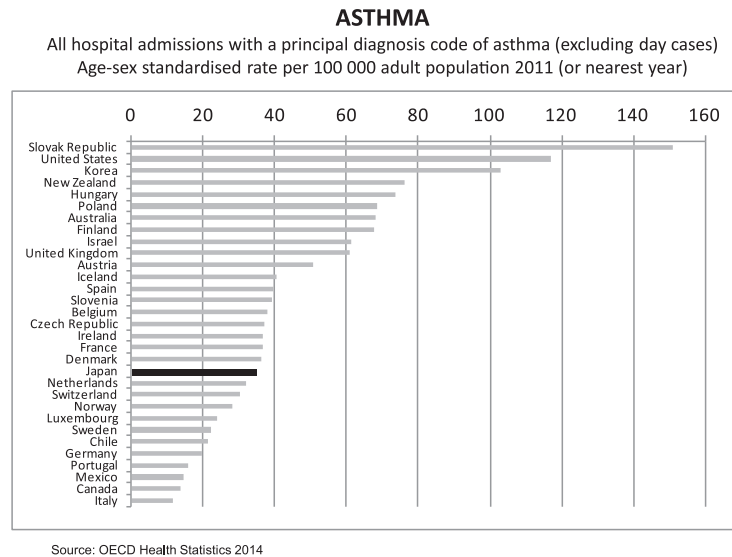


Figure 2. All hospital admission with a principal diagnosis code is asthma

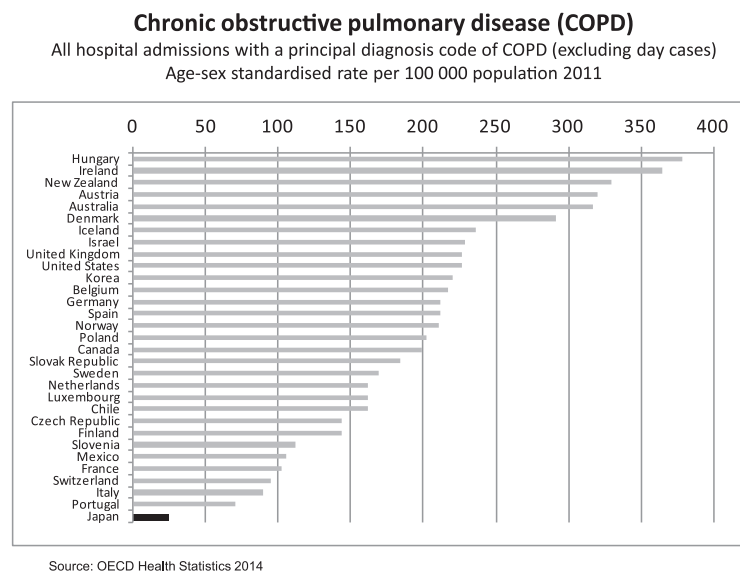


Figure 3. All hospital admissions with a principal diagnosis code of COPD

For chronic obstructive pulmonary disease (COPD), Japan has an exceptionally low rate within the developed world. Given higher prevalence of smoking among Japanese males, however, it may be because of statistical artifact of patient survey records, disease epidemiology, or the care processes of this disease unique to the Japanese.

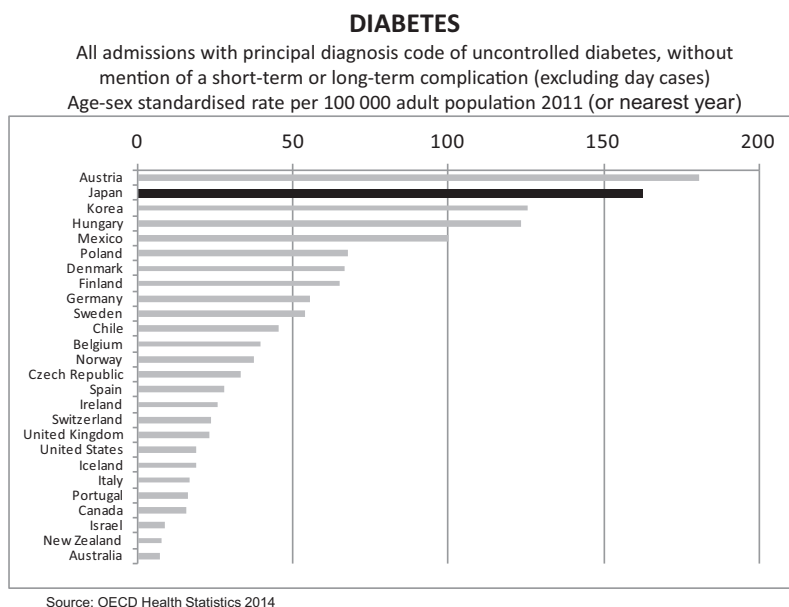


Figure 4. All hospital admissions with a principal diagnosis code of diabetes

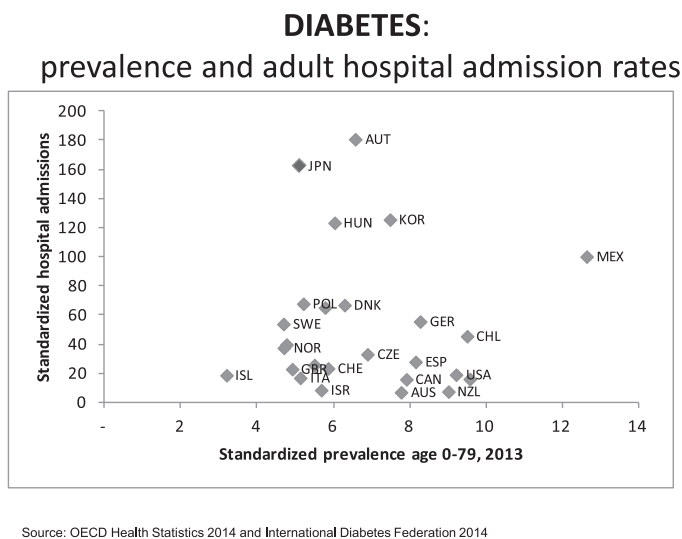


Figure 5. Scatter diagram of prevalence and adult hospital admission rates of diabetes

At the other end of the spectrum is diabetes, where it appears from the data that Japan has particularly high levels of admissions (Figure 4). On the other hand, Figure 5 shows that it is not the prevalence of diabetes in Japan that is driving admissions rates high. Japan actually has quite low prevalence compared to most countries, but it has as high an admission rate as in Austria, which has a very hospital-dominated health system. This may be caused by the unique form of hospitalization known as “educational hospitalization” which is a hospitalization for diabetes patients to train patients in appropriate diet and medication. This demonstrates that this sort of data is very interesting, and useful, but has to be viewed very carefully.

Dusheiko et al (2011)<sup>6</sup> examine whether disease management in primary care actually does reduce costs or improve patients’ health, using the data collected for a policy on incentives of performance in ten chronic conditions (asthma; chronic heart disease; chronic kidney disease; COPD; dementia; diabetes; hypertension; hypothyroidism; mental health; and stroke).

The paper found that high levels of performance in managing certain chronic diseases do not seem to improve health of people at least in the short term. However, what it did find was that disease management of people who have had a stroke had a very distinct impact. Good disease management of stroke patients is associated with reduced future mortality, and reduced future care costs. The improvements over a period of five years in stroke care in the UK have saved about 7,000 deaths per annum, and has reduced 0.2% of all hospital costs, which is not negligible. In general, it is hard to measure the observable impact of primary care on hospital costs, and more research is needed to identify reliably the impact of quality of primary care on health outcomes.

### 3. Two kinds of incentives in primary care

Incentives play a big part in how the primary care system works. There are two types of incentives; indirect and direct.

It is important to note that patients can choose which GP they register with. There is therefore some competition between general practices. The indirect incentives arise from that competition, and to some extent through formal performance reporting mechanisms. Moreover, informal reputation is also become an important element of indirect incentives, for example through the NHS website *NHS Choices*. Rather like *TripAdvisor*, this allows patients to post their views on their GP practice. Direct incentives are provided through payment, in the form of the nationally agreed contract for services, a mixture of capitation, fee for service and pay for performance.

Table 1. Gatekeeping system in the OECD countries

		Gatekeeping system		
		Primary care physicians referral to access secondary care		
		Required	Incentives	No requirement, no incentive
Are patients required or encouraged to register with a primary care physician?	Required	Denmark, Finland, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain		Czech Republic
	Incentives	Australia, New Zealand, Norway, Poland,	Belgium, France, Switzerland	
	No requirement, no incentive	Canada, Chile, United Kingdom	Mexico	Austria, Germany, Greece, Iceland, Israel, Japan, Korea

Source: <http://www.oecd.org/els/health-systems/organisation-health-care-delivery.htm>

#### 4. Two primary care policies aimed at improving health system efficiency

GP gatekeeping is a central feature of the UK NHS, in the sense that patients cannot obtain access to non-emergency specialist care without a formal referral from their GP. The gate keeping role in the UK is actually an extreme form of the policy. The OECD has done a survey on gate-keeping across the developed countries (Table1). The horizontal axis indicates whether primary care physicians are required to make a referral for secondary care. For the majority of countries, in Denmark, Finland, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain, Australia, New Zealand, Norway, Poland, Canada, Chile, United Kingdom, there is that *gatekeeping* requirement.

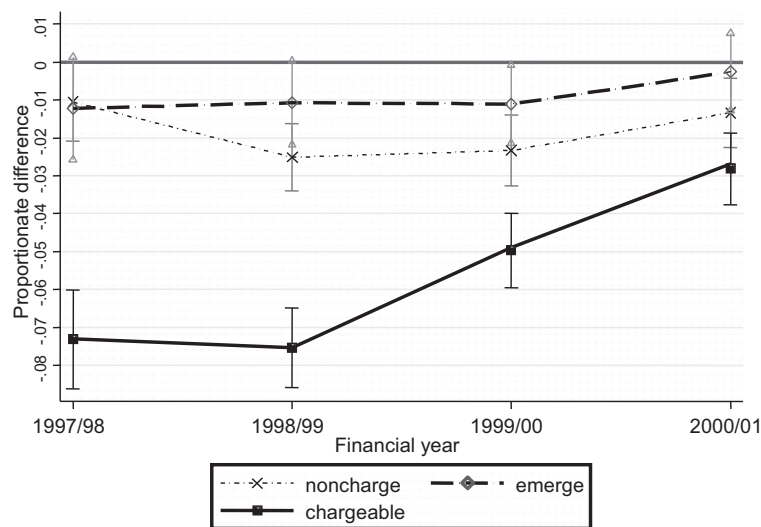
Japan has no gatekeeping to secondary care, and there are some countries in the middle, Belgium, France, Switzerland, and Mexico with some gatekeeping incentives. In France, for example, one has to pay extra if one goes to a specialist without getting a referral from a primary care gatekeeper.

The vertical axis indicates whether patients are required to register with a primary care physician. That is less relevant to this particular subject.

##### (1) Fundholding budgets for general practice

There have been two policies aimed at primary care that have sought to improve efficiency in the area of chronic disease and care of the elderly. The first was known as *fundholding*, implemented in 1991. Those GPs who chose to participate were given an annual budget with which they were expected to look after their patients' routine secondary care and prescribing needs. The fundholding budget included routine ('chargeable') non-emergency surgery (about 37% of all hospital episodes) and excluded both 'non-chargeable' elective procedures (more complex, about 16% of all episodes) and emergency admissions (about 46% of episodes).

The general practice could retain any surplus on the fundholding budget, not for their personal wealth or income, but for investing in patient services. They could use the savings to provide a new service for their patients, and make their practice more attractive in some way.



source: Dusheiko, et al (2006) p470 Figure2

Figure 6. Differences between fundholder and non-fundholder admission rates for chargeable, non-chargeable and emergency admissions

It is also important to note that the penalties for overspending were quite weak. The worst that could happen to a fundholder was that they would have authorization removed, and had to withdraw from the fundholding scheme. They therefore did not actually have a great deal of personal money at stake.

Fundholding was started in 1991, and abolished in 1998. Very importantly, GPs' participation to the fundholding system was voluntary. In the end, about 50% of patients were covered by a fundholder by 1998. The abolition of fundholding in 1998 therefore provided an interesting natural experiment to examine the implications of abandoning a policy. Dusheiko et al (2006)<sup>7</sup> looked at GP referrals to hospital services two years either side of abolition. The paper used difference-in-difference econometrics techniques to adjust for the effects of extraneous factors and selection bias. The results show that fundholders made 4.9% less use of the relevant non-emergency hospital treatments than their non-fundholding counterparts, a difference that quickly disappeared after abolition. There was therefore quite a large impact on secondary care caused by fundholding.

In figure 6, there are the two years (1997/98 and 1998/99) before abolition of the fundholding. The second (non-chargeable admission) and third (chargeable admission) lines from the top are the proportionate rate difference between fundholders and non-fundholders relative to the first flat line from the top. This form of voluntary gatekeeper budget-holding thus secured annual savings of 0.6% of all hospital expenditure, with very modest incentives. When the fundholding was abolished, in the first year (1999/00), the fundholders started approaching all the other general practices. And in the second year (2000/01), they had got very close to the non-fundholders. Therefore, there was a very distinct impact when the policy was abolished.

We could find no evidence that fundholder patients had poorer health. There was an interesting finding that they actually seemed to be less satisfied with their doctors than non-fundholding patients. There may be an issue that patients may think that their doctor is concerned about the budget as well as their health, and this is a consideration for any policy-makers considering primary care budget-holding.

## **(2) Pay-for-performance in primary care (Quality and Outcomes Framework)**

The second initiative in UK general practice is based on Pay-for-Performance. This is the notion of paying physicians a reward for securing improved quality<sup>2</sup>. Cashin et al (2014)<sup>8</sup> report 16 case studies from across high-income countries for paying for performance, in both primary and secondary care.

There are big questions about what should be rewarded when using pay for performance. Most basically, it could be based on the *structure* of care, or having certain requirements in place, considered necessary to provide quality services<sup>3</sup>. The next level is concerned with the *processes* of care; do the providers adhere to certain guidelines, which are expected to lead to better outcomes. Finally, should we reward the *outcomes* of care in terms of better health? It turns out that these outcomes are often very difficult to measure, and may take a long time to materialize. Also, they are vulnerable to influence beyond the control of the healthcare provider.

Cashin et al (2014)<sup>8</sup> found that most systems in operation reward the processes of care. It is important that those processes should be known to be related, eventually, to good outcomes. Table 2 shows the OECD countries that are using pay-for-performance, in primary care, specialist care, and hospitals. Those countries that are using pay-for-performance do so mainly in primary care. There are some schemes in specialist care, and some in hospitals. And the Japan line is empty.

Cashin et al (2014)<sup>8</sup> also show some examples of pay for performance. France has *Contracts for Improved Individual Practice* for primary care physicians in prevention, chronic disease management, and prescribing. Germany has an interesting *Disease Management Program* uniquely designed and contracted by each Sickness Fund, or a public insurer. These programs resulted in improvement of certain aspects of primary care and subsequent outcomes (e.g. diabetes management), though the effect was not observed equally across disease conditions. In the UK, the *Quality and Outcomes Framework* (QOF) has been introduced, as follows.

In brief, QOF tries to incentivize actions associated with high quality care, and reduce the need for specialist care. It was first implemented in 2004 and is still in operation. It measures about 150 performance indicators in primary care, and up to 20% of primary care practices' income is determined by their performance. Although the

Table 2. P4P programs and measures in OECD countries

<i>Country</i>	<i>Primary care</i>	<i>Specialist care</i>	<i>Hospitals</i>
Australia	X		X
Austria			
Belgium	X		
Canada			
Chile	X	X	
Czech Republic	X		
Denmark			
Estonia			
Finland			
France	X	X	X
Germany	X		
Greece			
Iceland			
Ireland			
Israel			
Italy			
Japan			
Korea	X	X	X
Luxembourg	X		
Mexico	X		
Netherlands	X	X	X
New Zealand	X		
Norway			
Poland	X		
Portugal	X		X
Slovak Republic			
Slovenia			
Spain	X	X	X
Sweden	X		X
Switzerland			
Turkey	X		X
UK	X	X	X
US	X	X	X

Source: Cashin et al (2014) Page 11 Table 1.3

Table 3. Indicators and points at risk in QOF

Area of practice	PIs	Points
Clinical	76	550
Organizational	56	184
Additional services	10	36
Patient experience	4	100
Holistic care (balanced clinical care)	–	100
Quality payments (balanced quality)	–	30
Access bonus	–	50
Maximum	146	1050

source: Author

program was voluntary, virtually all of GPs participated in this new program. Thus, it was quite difficult to precisely evaluate the impact of QOF because there was no control group.

What is the shape of this scheme? QOF involved exactly 146 performance indicators across a variety of areas (Table 3). Area of clinical practice had 76 performance indicators and areas of the organization had 56 performance indicators. Then there were points in each area. In the clinical practice area, there were 550 points. The maximum point score in QOF was 1050 points and it determined the bonus of GPs. This is the original style of QOF. It has



Table 4. Performance Indicators and points at risk of clinical practice area in QOF

Domain	PIs	Points
CHD including LVD etc	15	121
Stroke or transient ischaemic attack	10	31
Cancer	2	12
Hypothyroidism	2	8
Diabetes	18	99
Hypertension	5	105
Mental health	5	41
Asthma	7	72
COPD	8	45
Epilepsy	4	16
Clinical maximum	76	550

note: CHD; Coronary heart disease, LVD; left ventricular dysfunction  
source: Author

changed a little recently, however the structure is still the same.

These are some details of the clinical practice area in Table 4. In each domain of chronic disease, there were a number of performance indicators. In terms of mental health, one of the biggest parts of expenditure in the UK, there were originally only 5 indicators and 41 points for the domain, although a typical GP might devote about one-third of their time on aspects relating to mental health. In contrast to mental health, the hypertension domain had 5 indicators, but there were 105 points at stake.

Table 5 and Figure 7 show how the achievement score is calculated taking the hypertensive case as an example. A primary care practice gets nine QOF points just for maintaining a register of patients with hypertension. BP5 is defined as “percentage of patients with hypertension whose last blood pressure reading (in past 9 months) was 150/90 or less”. There are 56 points at risk in BP5, and a practice secures all of those 56 points if 70% of registered hypertensive patients has blood pressure under control. If a practice has 55% of registered patients successfully controlled then it receives 39.2 points.

The average points score in each year since it was established has been very high (Table 6), suggesting that thresholds may have been set at too easy a level. In the early years, there were improvements in all of the clinical areas. Figure 8 indicates a selection of six of the performance indicators (Cox et al, 2007)<sup>9</sup>. The BP5 is the fourth line from the top on Figure 8 and was improving since the measurement started. The improvement continued after QOF was introduced in 2004. Note, all of the performance levels were improving even before QOF was introduced. A large part of this may have been due to computerization, because, to participate in QOF, every general practice needed to have the necessary information technology to record and report performance levels.

GP earnings took a big jump in the year QOF was implemented, in 2004 (Figure 9). The income is 20 million yen, 100 000 pounds, or 120 000 Euros. However, that income has not risen substantially since the introduction of QOF, and has even declined in some years.

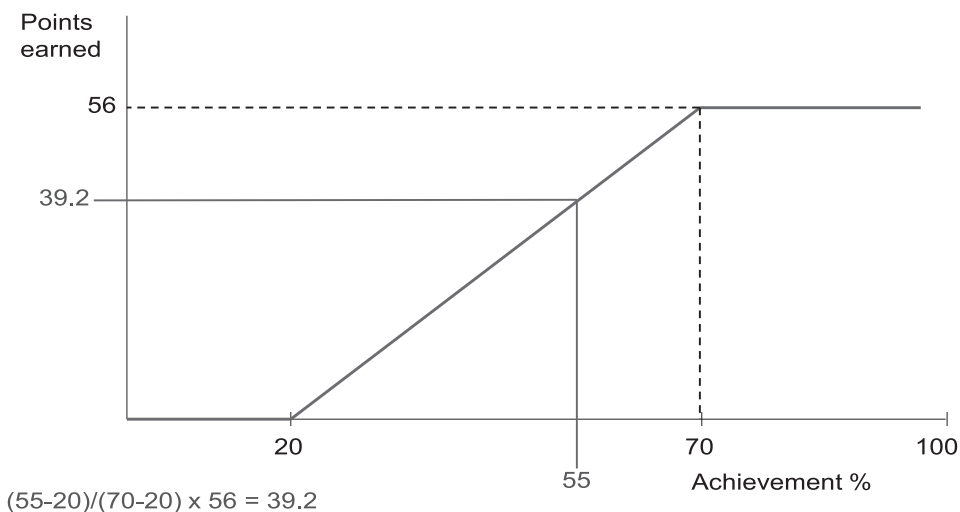
As noted above, quality was improving before QOF was introduced. It may have led to further improvements, though these improvements have probably been quite modest. However, there have been some important side-benefits we should note. Amongst these, the computerization of general practice has created better information flow.

In addition, patients are better informed about the quality of their primary care physicians. It has been a very interesting experiment to involve GPs in asking them what they are trying to do, and what is important in their practices. The involvement of GPs has been very important. We now have a more informed debate on what we think primary care should be doing. This has been quite an important and interesting experiment, but whether

Table 5. Performance indicators, scale and points at risk in hypertension domain

	<b>Minimum percent score below which no points earned</b>	<b>Maximum percent score above which no further points earned</b>	<b>Total points at risk</b>
<b>Clinical records</b>			
BP 1. Practice can produce a register of patients with established hypertension	NA	NA	9
<b>Diagnosis and initial management</b>			
BP 2. Percentage of patients with hypertension whose notes record smoking status at least once	25	90	10
BP 3. Percentage of patients with hypertension who smoke, whose notes contain a record that smoking cessation advice has been offered at least once	25	90	10
<b>Ongoing management</b>			
BP 4. Percentage of patients with hypertension for whom there is a record of the blood pressure in past 9 months	25	90	20
BP 5. Percentage of patients with hypertension whose last blood pressure reading (in past 9 months) was 150/90 or less	25	70	56

source: Smith and York (2004) p115 EXHIBIT1



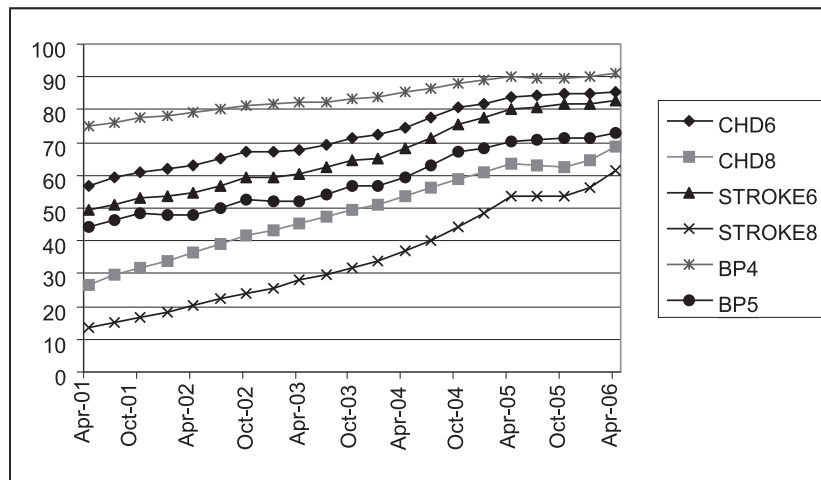
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Figure 7. Threshold of Indicator BP5

Table 6. Average points score of QOF in England

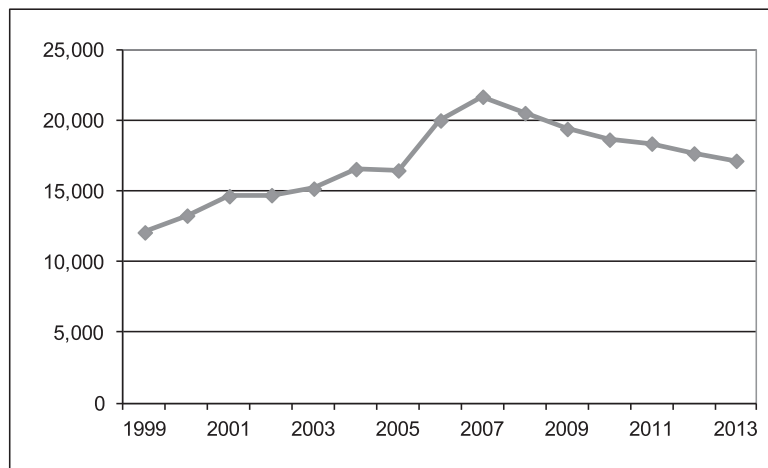
	2004 /05	2005 /06	2006 /07	2007 /08	2008 /09	2009 /10	2010 /11	2011 /12	2012 /13
Average points score (%)	91.3	96.2	95.5	96.8	95.4	93.7	94.7	96.9	96.1
Practices achieving full marks (%)	2.6	9.7	5.1	7.5	2.0	1.0	1.3	2.4	3.7

source: NHS Information Centre <http://www.qof.ic.nhs.uk/>



note: CHD; Coronary Heart Disease, STROKE; stroke, HP; Hypertension  
source: Beales and Smith (2012) P176 Figure 1

Figure 8. Trends in six QOF indicators 2001-2006



note: converted '000 JPY; constant 2012 prices  
source: Author

Figure 9. Trends in real GP earnings 1999-2013

spending 20% of earnings on securing the QOF achievements is questionable.

Pay for performance will become more important in health systems. We have yet not seen too many schemes producing major changes, however, because policy makers are still experimenting, and still feeling their way. In fact, in contrast to the UK scheme, most schemes internationally are underpowered. We must be patient, but this is the way health systems will pay providers in the future.

## 5. Conclusion

Primary care is a potentially very important part of all health systems. However, primary care is highly variable both between and within systems. In the UK, the best primary care is excellent, but there is also some very poor primary care in the same system.

Primary care does offer a big scope for securing cost control and quality improvement. However, probably because of the big variability between practices, the evidence has been inconclusive. We need better experiments. Policy makers should be much better at introducing experiments so that they can be evaluated properly. We waste a huge amount of effort and time in the UK because there are big reforms in the health system, but it is almost impossible to evaluate them properly. Academics should be involved in the design of reforms so that we can evaluate them better in the future. It is interesting that one of our strongest evaluations was when fundholding was abolished, opening up an evaluation opportunity.

For success in the primary care area, the following things are essential. First, payment mechanisms must be aligned with what you are trying to achieve. Too often, we see the payment mechanisms and objectives are misaligned. We have got to have the information resources available, on performance and many other factors. We also must have good audit. What we found is that in the past there has been mistrust of evidence, that was provided, and that can be very damaging for both the professionals in the system and the patients as well. We do need good quality information. We need high-quality governance of the system to ensure that what is required is carried out properly. The experience in the U.K. about primary care has definitely indicated that we need good clinical leaders. Without those clinical leaders – particularly the doctors – we cannot make this work. Finally, we must monitor and evaluate the system so we know what is working and what is not working. Then we can make revisions and adjustments in the future.

In conclusion, the development of primary care is a policy area well worth considering, but it has to be done carefully and there are pitfalls that can arise in this area. However, there is a growing body of evidence and expertise, in Japan and internationally, to help refine policy and make sure the best practice is emulated, and the worst pitfalls avoided.

## Acknowledgment

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## Footnotes

- 1 It is unfortunate that Japan does not join in this survey at the moment. However, it will in the future because it is a very useful “snapshot” of health systems, and what people think of those health systems.
- 2 It is rather strange that we should think this is revolutionary. In fact, there is a possibly apocryphal story that the Chinese first invented this type of reward. There are Chinese villages only paid their physicians while they stayed healthy. If the villagers became sick, then they stopped paying their physicians. This is an early form of pay-for-performance.
- 3 This is actually a big issue in low-income countries. Their first concern is to make sure the clinicians turn up for work.

The first aspect of performance is to have the workers in place, and to reward attendance.

## References

- 1) Curry, N., Holder, H., and Patterson, L. (2013) "Caring for an ageing population: Points to consider from reform in Japan" Nuffield trust, London, U.K.
- 2) Beales, S., and Smith, P., (2012) "The role of primary health care in controlling the cost of specialist health care" *Nordic Economic Policy Review* 2. 153-186.
- 3) Smith, P. and York, N. (2004), "Quality incentives: the case of UK general practitioners", *Health Affairs*, 23(3), 112-118.
- 4) Schoen, C., and Osborn, R. (2010) "2010 Commonwealth Fund International Health Policy Survey in Eleven Countries" The Commonwealth Fund, New York, United States.
- 5) OECD (2014) "OECD Health Statistics 2014" OECD, Paris, France.  
[www.oecd.org/.../health.../Table-of-Content-Metadata-OECD-Health-Statistics-2014.pdf](http://www.oecd.org/.../health.../Table-of-Content-Metadata-OECD-Health-Statistics-2014.pdf)
- 6) Dusheiko, M., Gravelle, H., Martin, S., Rice, N. and Smith, P. (2011), "Does better disease management reduce hospital costs? Evidence from English primary care", *Journal of Health Economics*, 30, 919-932.
- 7) Dusheiko, M., Gravelle, H., Jacobs, R. and Smith, P. (2006), "The effect of budgets on doctor behaviour; evidence from a natural experiment", *Journal of Health Economics*, 25, 449-478.
- 8) Cashin, C., Chi, Y., Smith, P., Borowitz, M. and Thomson, S. (eds) (2014) "Paying for performance in healthcare : implications for health system performance and accountability" Open University Press. Maidenhead, U.K.
- 9) Cox, J.H., Vinogradova, Y. and Coupland, C. (2007) "Time Series Analysis for selected clinical indicators from the Quality and Outcomes Framework 2001-2006" *Final Report for The Information Centre for health and social care*, The Information Centre for health and social care, Leeds, U.K.