



# Management in Healthcare: Why good practice really matters

McKinsey&Company



## Executive summary

- 1 Hospital-specific management practices are strongly related to a hospital's quality of patient care and productivity outcomes. For example, this research shows that improved management practices in hospitals are associated with significantly lower mortality rates and better financial performance.
- 2 Across countries, there is a wide variation in management scores. The United Kingdom delivers particularly strong hospital-management practices relative to its health expenditure.
- 3 There is significant variation in the quality of hospital management practices within a country, which is much greater than the average differences across countries. This suggests a great opportunity for improving poorly performing hospitals.
- 4 There is a strong relationship between a number of factors and effective management practices. In particular:
  - Competition helps improve managerial standards.
  - Hospitals with clinically qualified managers are associated with much better management scores.
  - Higher-scoring hospitals give managers higher levels of autonomy than lower-performing hospitals. This finding is consistent with McKinsey's own experience in hospitals and with the Service Line Management approach co-developed with Monitor, which aims to devolve decision making and accountability to the front line.
  - Scale and size matter. Larger hospitals are better managed.
  - When it comes to ownership, private hospitals (including not-for-profits) achieve higher management scores than public hospitals across all countries.
- 5 The findings of this and previous research by the same team point to significant implications for UK policy makers, Academic Health Science Centres, commissioners, hospitals, investors, and, most importantly, patients. These implications are further discussed in the final section of this report.

The individual hospital-management scores from the Management Matters project are confidential, but hospitals can assess their own management practices through a free online tool at [www.mckinseyhsi.com](http://www.mckinseyhsi.com).

Further analytical detail can be found at [http://cep.lse.ac.uk/\\_new/research/productivity/management.asp](http://cep.lse.ac.uk/_new/research/productivity/management.asp)

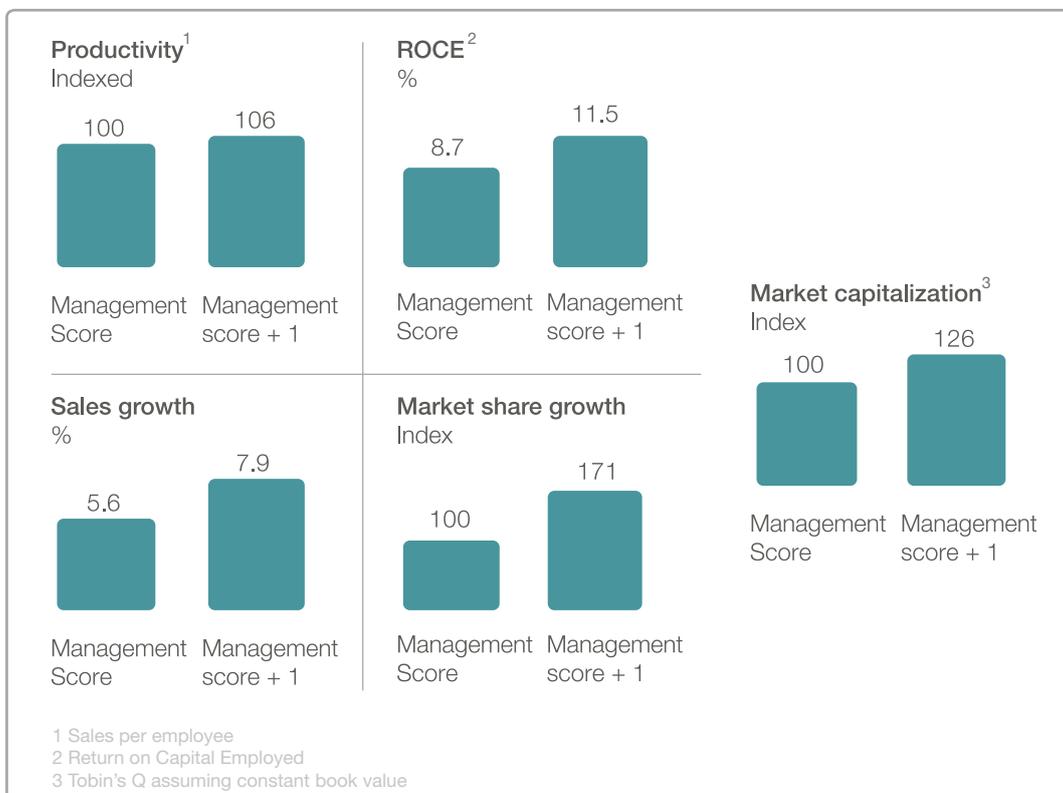
# The Management Matters project

The Management Matters Research project is an ongoing joint venture between McKinsey & Company and the Centre for Economic Performance at the London School of Economics, in collaboration with academics from Stanford and Harvard universities.

When we began this research project in 2001, we believed that a company's management practices were likely to have a strong effect on its performance. We also believed that this effect might be stronger than many of the other factors that determine whether a business succeeds—such as national culture, market conditions, and regulation.

To examine this hypothesis, we developed a tool to assess overall management practice and compare it with company performance. This tool measures management practices in three broad areas: operations management, performance management, and talent (people) management. Over the years we have conducted interviews with more than 6,000 manufacturing companies across 19 countries in North and South America, Europe, Asia, and Australasia. These earlier studies showed a strong relationship between management practice and manufacturing company outcomes, as seen in Exhibit 1 below.

**Exhibit 1. Management practices and measures of financial performance are tightly linked according to our research on over 6,000 firms globally**



In 2006, we began applying the same methodology to 104 National Health Service Hospitals and 22 private hospitals in the United Kingdom; then in 2009 we extended the research to 1,194 hospitals in the United States, United Kingdom, Canada, Sweden, Germany, France, and Italy. Unless stated otherwise, this report uses the 2009 data only in order to be comparable across countries. Our research methodology is presented in Appendix A.

This report details the findings of that research in respect of management practices and outcomes in hospitals and lays the foundation for future areas of inquiry.



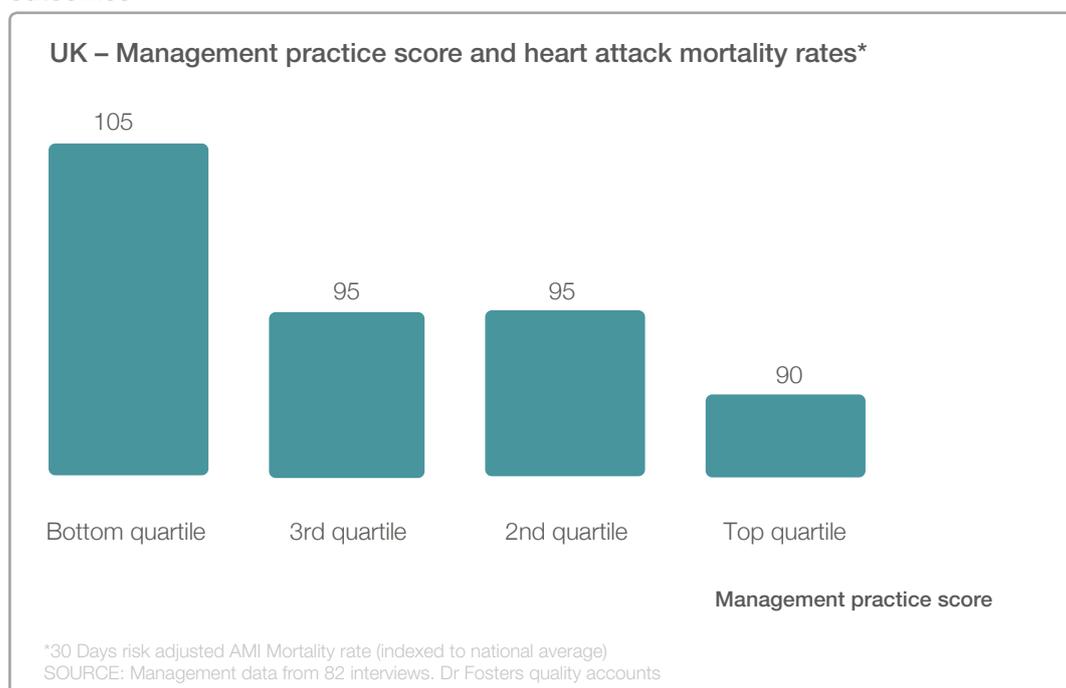
# Introduction

Healthcare expenditure represents a major challenge for all countries, absorbing an increasing percentage of national income. Nations are grappling with increases in demand for healthcare as their populations age and expectations rise along with living standards. At the same time, industrialised countries face budgetary shortfalls. As these nations seek to control healthcare costs, an unbalanced focus on “cost” can carry unacceptable consequences; therefore health systems across the developed world are focusing on enhancing quality *and* productivity. Implementing systemic change is daunting, but the results from this latest Management Matters in Healthcare research provide an optimistic message: improving management practices is a way to raise both quality and productivity. Thus, instilling better management practices could be a key part of addressing difficult challenges.

## Hospital-management practices are related to quality and productivity outcomes

A research team of more than 40 interviewers conducted interviews with almost 1,200 hospitals in Canada, France, Germany, Italy, Sweden, the United Kingdom, and the United States. The team also collected hospital-level outcome statistics where they are available publicly (mostly in the United States and United Kingdom), or through the McKinsey Hospital Institute. As a result of this research, a strong relationship was established between specific hospital management practice scores and specific hospital health outcomes. The management practices assessed were those determining how well hospital operations, performance, and talent were managed. We found that hospitals with higher management-practice scores had better clinical outcomes, such as lower mortality rates from emergency heart attacks<sup>1</sup>, as well as higher levels of patient satisfaction and better financial performance. For example, in the United Kingdom a one-point improvement in the management-practice score is associated with a 6 percent fall in the rate of deaths from heart attacks. This is consistent with our previous research into manufacturing companies, which showed correlations between our assessed management-practice score and a range of corporate performance metrics such as productivity, profitability, and companies’ survival rates.

Exhibit 2. There is a strong relationship between management practices and health outcomes



### Exhibit 3. Good management is correlated with high quality

**A one point increase in management practice quality is associated with:**

#### UK Hospitals

- 6.5% reduction in risk adjusted 30 days AMI mortality rates
- 33% increase in income per bed
- 20% increase in the probability that the hospital is above average in terms of patient satisfaction

#### US Hospitals

- 7% reduction in risk adjusted 30 days AMI mortality rates\*
- 14% increase in EBITDA per bed
- 0.8 increase in the percentage of people that would recommend the hospital

Note: Each row reports the coefficient of a different regression. All regressions include controls for hospital size and age, proportions of managers with a clinical degree, ownership, proportion of doctors in employment, network dummy, region, Foundation Trust status (UK only), third party management (US only), and interview controls. All coefficients are significant at the 5% level, except the AMI regression, which is significant at the 10% level. Regressions include only survey respondents where information above was available. UK N=82, US N=216  
\*N=95

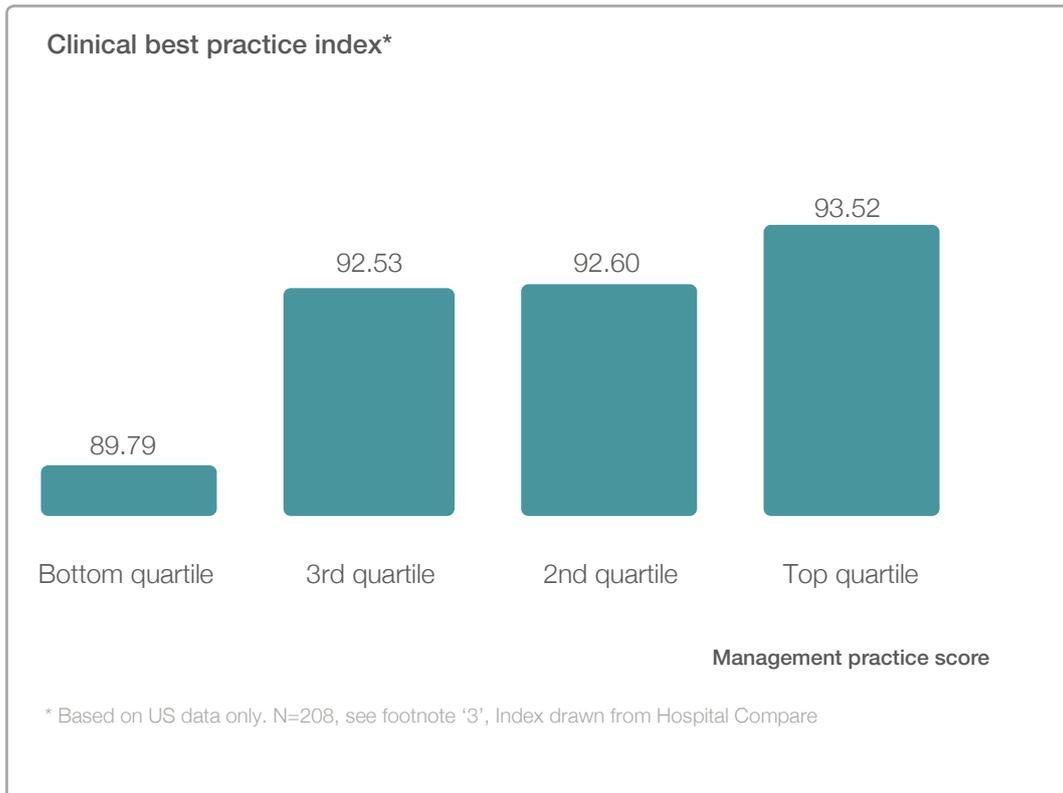
### WHAT BEST PRACTICE LOOKS LIKE IN TALENT MANAGEMENT

**To score five on a scale of one to five on the Talent Management portion of the survey, interviews would have found the following characteristics:**

- **“There is an evaluation system which rewards individuals based on performance; the system includes both personal financial and non-financial awards; rewards are given as a consequence of well-defined and monitored individual achievements.”**
- **“We move poor performers out of the hospital/department or to less critical roles as soon as a weakness is identified.”**
- **“We actively identify, develop, and promote our top performers.”**
- **“Senior staff are evaluated and held accountable on the strength of the talent pool they actively build.”**
- **“We do whatever it takes to retain our top talent across all staff groups.”**
- **“We provide a unique value-proposition to encourage talented individuals to join our hospital before our competition.”**

**More information on the methodology is available in Appendix A.**

Exhibit 4. Good management is correlated with adoption of clinical best practice



In the United States, where financial information is more readily available and relevant,<sup>2</sup> we found a positive relationship between management score and financial performance: a one standard deviation increase in the management score was associated with a 14 percent increase in EBITDA [earnings before interest, tax, depreciation, and amortization]. In the United States, Germany, and Sweden, we also found an association between higher management scores and the adoption of clinical best practices.<sup>3</sup>

Hospitals which scored well in one area of management tended to score well in all of them, which is why the average across all questions works well as a single indicator.

**Key insights:** although the strong correlation between our management measures and hospital performance does not prove causality, it suggests that management really does matter for patient wellbeing.

## Hospital management varies significantly across countries

The research finds important differences in the average management score across countries (Exhibit 5). The United States scores the highest (as it also does in our previous research on manufacturing and retailing), whereas Italy and France are towards the bottom of the league. These results hold even when controlling for organisational differences that we know make a difference to management practice scores such as size, age, and ownership type (see the lighter bars).

The position of the United States may be unsurprising considering it spends about 16 percent of its national income on healthcare. Perhaps more surprising is that when we compare these management scores against per-capita healthcare spending by country (Exhibit 6), the United Kingdom appears to deliver strong management outcomes.

### Key insights: strong management practices are possible without high health expenditure.

At the hospital level there appears to be a particularly strong relationship between management scores and the percentage of managers with clinical degrees. In the United Kingdom, where we have been able to conduct the survey with the same hospitals in both 2006 and 2009, there is a strong relationship between an increase in the number of managers with a clinical degree and an improvement in the organisation's management score. Not surprisingly, higher-performing hospitals give managers (who are often clinicians) higher levels of autonomy than lower-performing hospitals.

Exhibit 5. There is a wide variation in average hospital management practice score by country

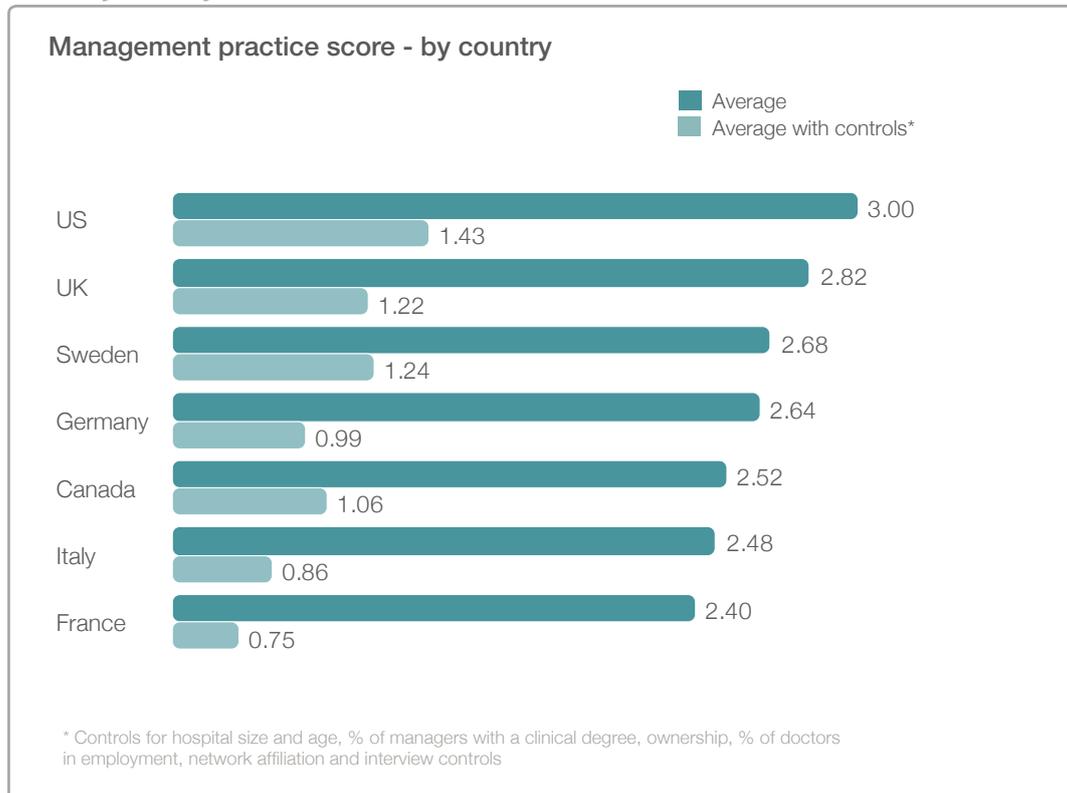
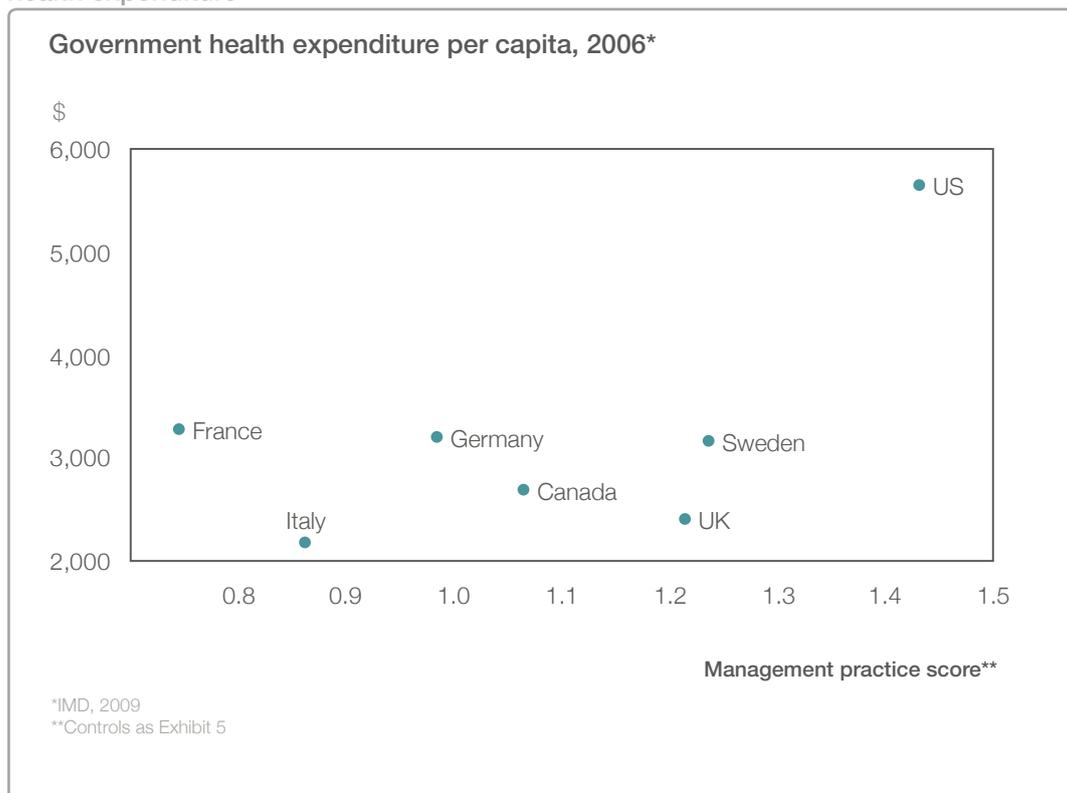


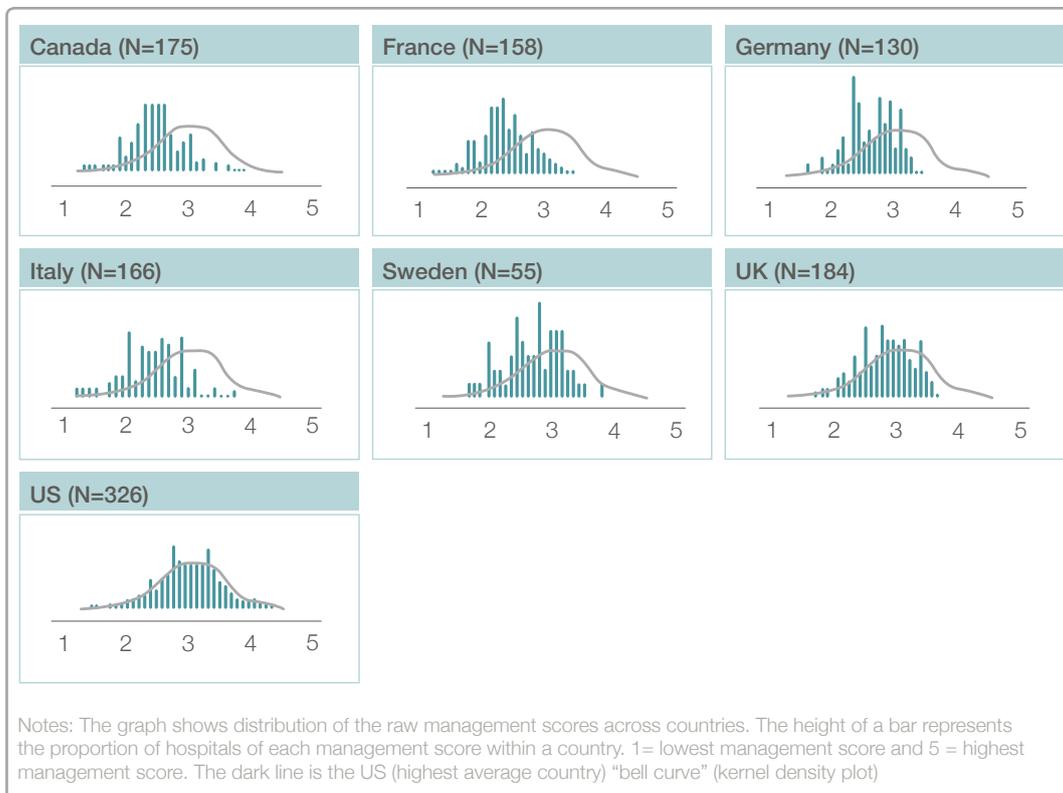
Exhibit 6. The UK achieves high management practice scores relative to direct health expenditure



## Management practice varies more within countries than across countries

Although the cross-country differences are eye-catching, much more striking are the differences in hospital quality within each country we examined. Country location accounts for only 18 percent of the overall difference in management scores—more than 80 percent of the variation is actually across hospitals within the same country.

Exhibit 7. There is a wide distribution of management practice scores within countries



It is not the case that every US hospital is better than every UK or Italian hospital. There are both excellent and poorly performing hospitals in all countries surveyed. Exhibit 7 shows the distribution of management quality within each country (the height of a bar represents the proportion of hospitals with each management score). The study identified that, as with our research into management practices among manufacturers around the globe, the same factors appear to account for a significant part of the variation in hospital management in each country, namely competition, scale, skills, autonomy, and ownership.

**Key insights:** there is a significant opportunity to create the conditions associated with better management and for lagging hospitals to improve their overall management scores.

## What drives better healthcare management around the world?

The research finds a strong relationship between management practice, hospitals' outcomes and policy-related variables, such as perceived levels of competition, percentage of clinicians who are "managers," hospital size, managers' autonomy, and ownership type. Again, these findings are consistent with our manufacturing research, pointing to a consistent set of factors that appear related to better management practice and outcomes. There are clearly interesting implications from these findings, given the current debates about health policy internationally. We focus here on five factors: competition, skills, scale, autonomy and ownership type.

### Competition

Competition can improve management in at least two main ways. First, managers are likely to exert more effort when faced with effective competition as the rewards for doing better are greater and the costs of failing to improve more severe. Second, there is a selection effect whereby the most poorly managed hospitals are more likely to close down or to be taken over. This second mechanism is somewhat weaker in UK healthcare than in other sectors of the economy though, since hospital closure has generally been rare.

Our work shows that competition appears to foster better management. One simple approach is to correlate the number of perceived competing hospitals against management practice. Exhibit 8 shows that hospitals perceived as being surrounded by many rivals are much better managed than those facing little or no competition.<sup>4</sup>

Exhibit 8. Management quality is strongly correlated with perceived competition



## Skills

Hospitals are knowledge-based organisations, so the human capital of their employees is crucial to success. While often the focus is purely on the skills of the medical staff, we found that clinical training is an important factor in improving managerial management practices.

Exhibit 9 shows that hospitals with more clinically trained managers (as indicated by a clinical degree) also enjoyed much better overall managerial quality. In the United Kingdom, where we conducted the survey with the same hospitals in 2006 and 2009, we can examine changes in skills and changes in management, as seen in Exhibit 10. Looking at these changes over time helps take account of many factors by looking through a single “lens.” We found a strong relationship between an increase in the number of managers with a clinical degree and an improvement in an organisation’s management score.

**Exhibit 9. Hospitals with more clinicians as managers have better management scores**



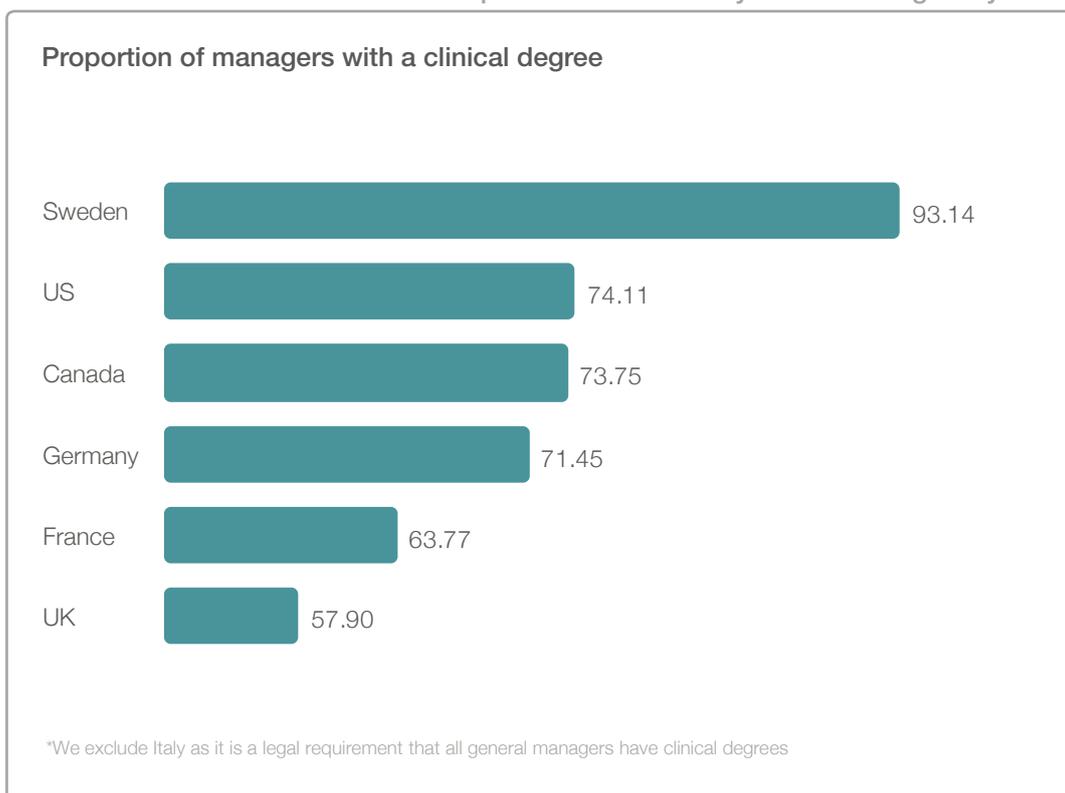
Why do we see such a consistent picture that skills matter, both at a point of time and over time? The most obvious reasons are increased understanding and credibility and better communication. Managers and clinicians often complain that each side speaks a different language. Clinically trained managers, however, can understand clinical challenges better, communicate with clinical staff in a language they understand, and enjoy a credibility that non-clinicians rarely achieve.

Strikingly, our survey reveals a relatively low proportion of UK managers with clinical expertise (Exhibit 11). In fact, our UK sample has the lowest proportion of managers with a clinical degree of the seven countries surveyed. This suggests that the United Kingdom could gain much by encouraging more movement of clinical staff into management and improving their management practices.

Exhibit 10. Increases in clinically trained managers are correlated with improved management practices



Exhibit 11. There is wide variation in the prevalence of clinically trained managers by country

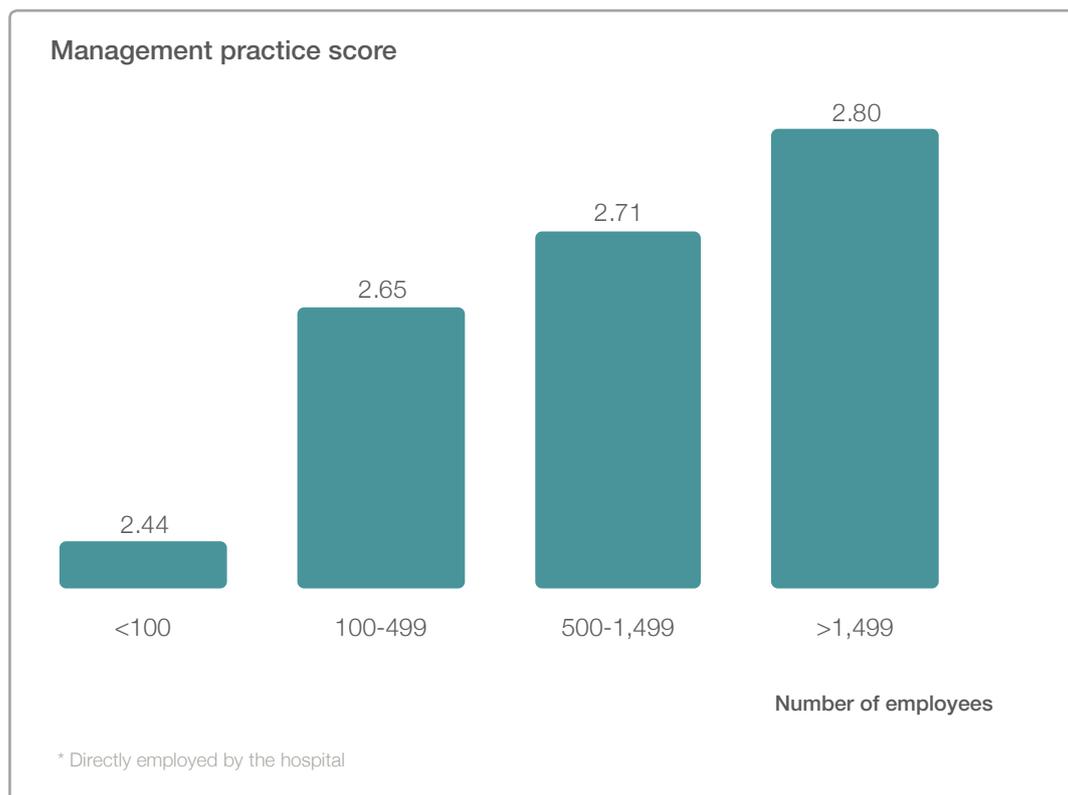


## Scale

Size matters, as Exhibit 12 clearly shows. We found that management practices are better in larger than smaller hospitals. The differences were particularly stark between hospitals with less than, and more than 100 direct employees.

In the private sector, a reason for the correlation is that well managed hospitals are able to grow more as they become more successful. Thus management determines size, rather than size determining management. We found the scale effect to be broadly important in all countries, even in those where better-performing hospitals had no ability or incentive to grow. So this makes the “economies-of-scale” story a more likely interpretation of the correlation between size and management practice.

**Exhibit 12. There is a strong relationship between hospital size and management practice**



## Autonomy

Not surprisingly, higher-performing hospitals have managers (who are often clinicians) with higher levels of autonomy than lower-performing hospitals (see Exhibit 13). Autonomy is important because it is one of the strongest incentives (financial or non-financial) for managers (see Exhibit 14).

Exhibit 13. Managerial autonomy is correlated with management practice

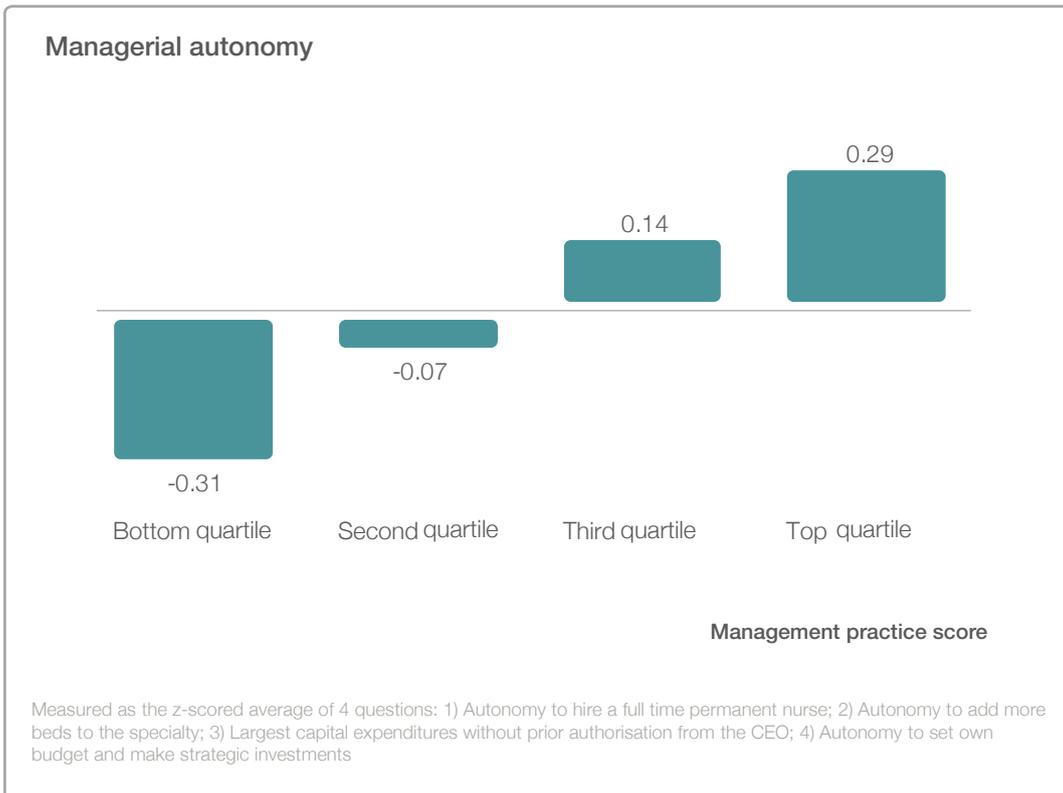
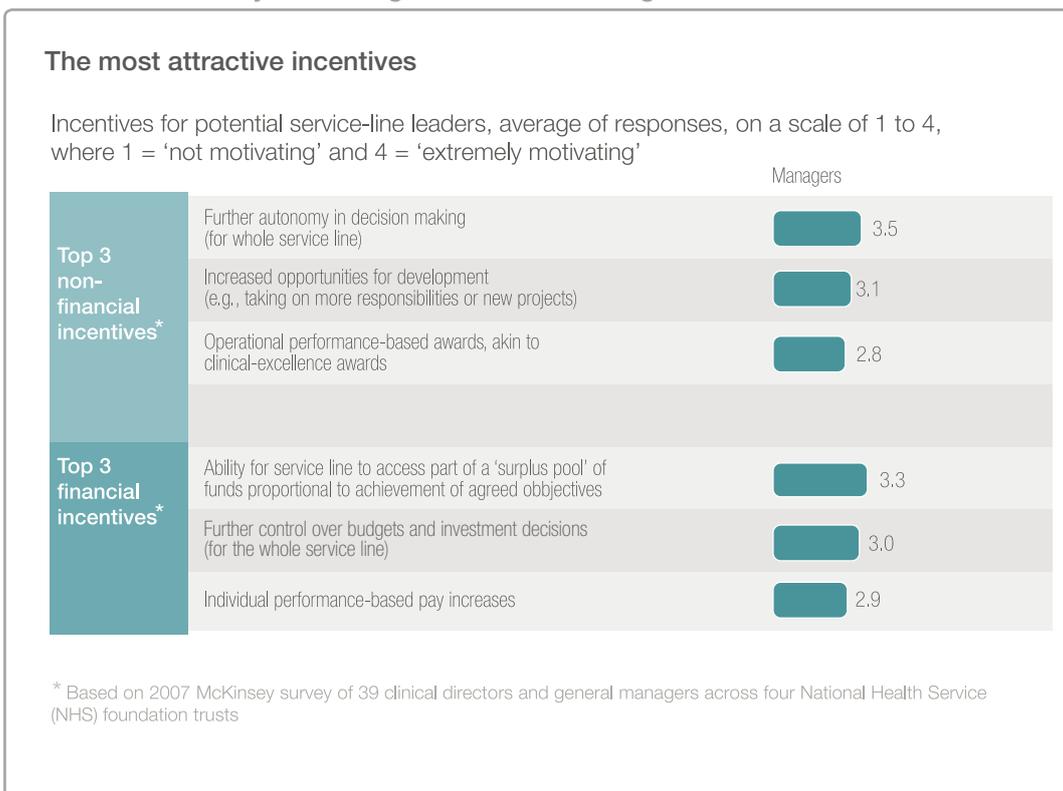


Exhibit 14. Autonomy is a strong incentive for managers



### SERVICE LINE MANAGEMENT IN THE NHS

Public hospitals in the United Kingdom achieve strong management scores relative to the money they spend, and continue to improve as more management roles are filled by clinicians. Service Line Management (SLM), an approach developed jointly by McKinsey and Monitor, the independent regulator of the NHS Foundation Trusts, is designed to devolve decision making and accountability to the front line—to the clinicians responsible for patient care. SLM is based on a simple assumption: that a hospital's clinical departments can be regarded as the equivalent of the business units, or service lines, in a commercial organisation. Clinical departments can function as a service line only if they have the power to make decisions. Thus SLM allocates autonomy to the front line; the clinicians in each department, particularly the clinical directors, have greater control over its activities and greater input into its long-term goals.

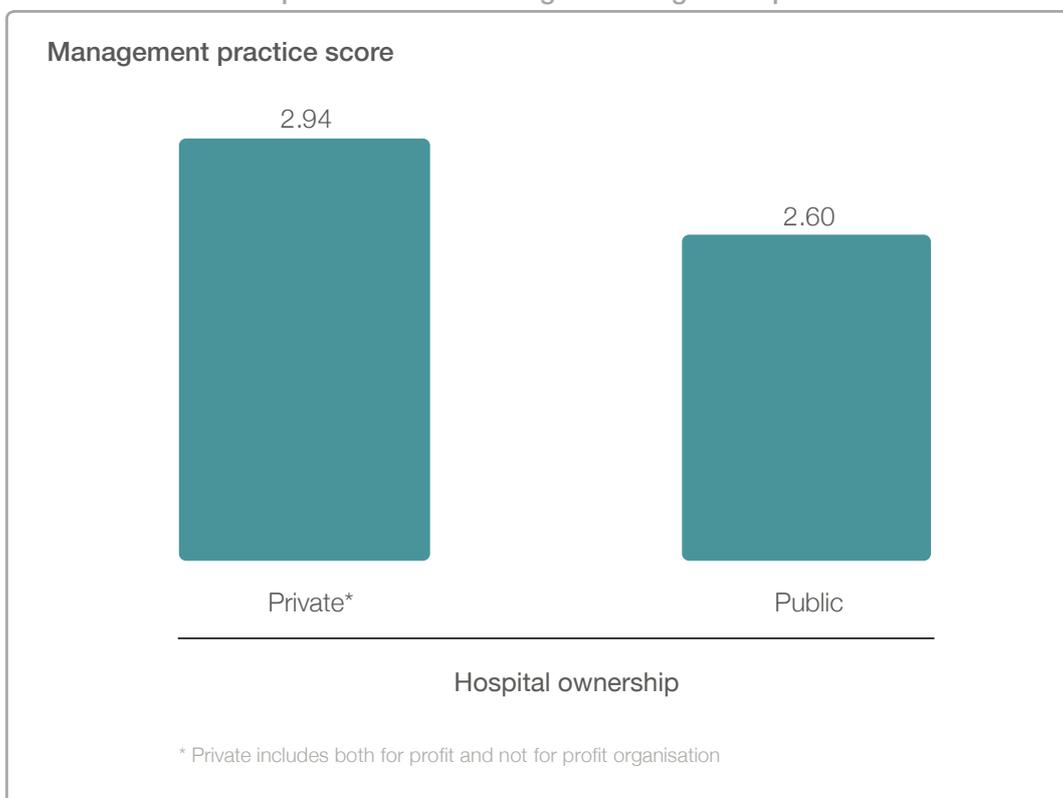
Implementing SLM is challenging because it requires a number of important changes to the way a hospital works: key elements include its approach to strategic planning, organisational model, culture, and capabilities. Building capabilities is particularly crucial as most clinicians in the United Kingdom have received only limited instruction on how to manage people, operations, and finances; even the senior doctors with responsibility for managing junior colleagues typically receive little training or support for this aspect of their role. However, most clinicians share traits that could serve them well if they took on expanded managerial responsibilities: they have been trained to make independent decisions and have a highly developed sense of professional excellence and accountability.

For more information on establishing SLM in a hospital, please refer to *How Service Line Management can Improve Hospital Performance* (*Health International* no 7, McKinsey & Company).

## Ownership

A robust cross-country finding is that private hospitals score higher than public hospitals in our management measures. This is mainly due to higher scores for talent management, with private hospitals more able to escape some of the restrictions on public hospitals in the recruitment of staff, people management, performance management, and rewarding of high performers.

Exhibit 15. Private hospitals tend to have higher management practice scores



This wave of research on management practices in hospitals did not look explicitly at how well multinational hospitals perform as the sample size was too small—the multinational hospital corporation is an emerging phenomenon. However, the previous Management Matters research on manufacturing companies highlighted the importance of multinational corporations (MNCs). MNCs not only have the highest average management scores (Exhibit 16) but also appear to stimulate increases in the management practice of their local competitors. That research found that MNCs, particularly US-based ones, performed best, while organisations operating domestically and run by their founders or the founder’s family performed poorly. Worst-performing of all were government-owned companies, with significantly lower average management scores (Exhibit 17). It may be worth considering if multinational health providers could play a similar role in improving domestic performance and whether high performing domestic providers have unexploited opportunities internationally.

Exhibit 16. In manufacturing multinationals outperform domestic firms

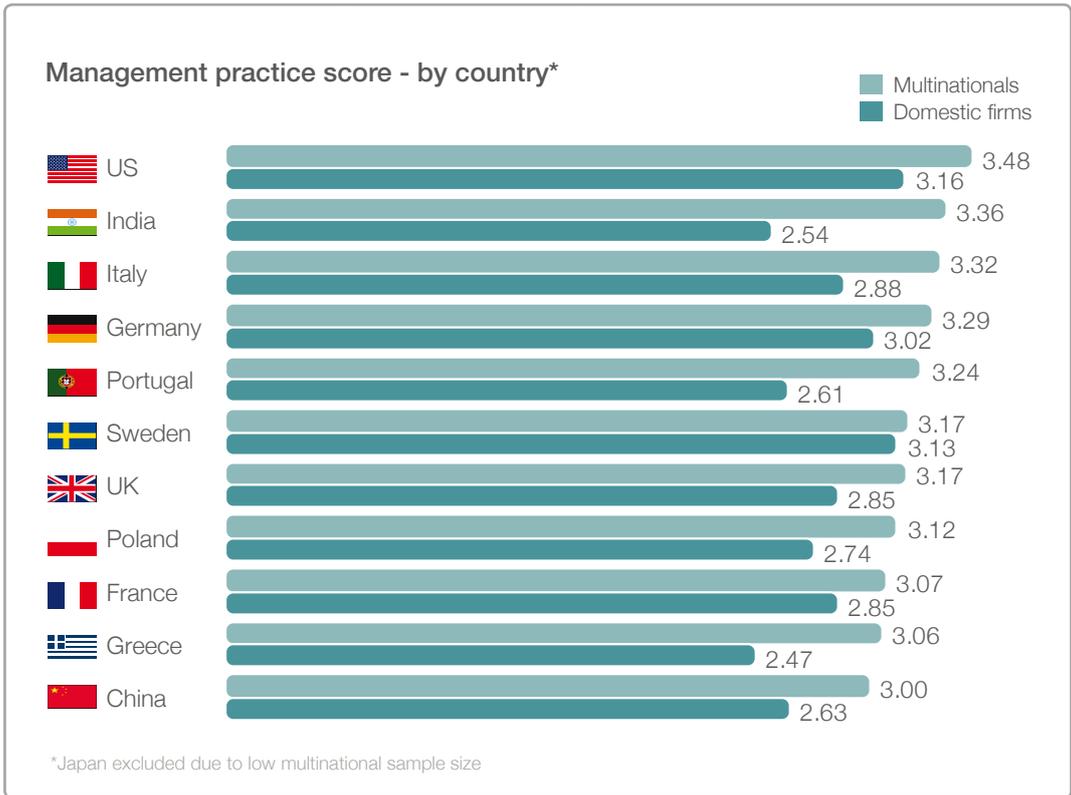


Exhibit 17. Government owned firms generally perform at the bottom of the league



## Putting it all together: Management Matters in hospitals

The main empirical messages from our healthcare survey resonate with what we have found from looking at other sectors. The large variation in management quality is just as prevalent in the publicly dominated healthcare sector as it is in the privately dominated manufacturing sector. Significantly, many of the same factors that seem important for manufacturing—competition, skills, scale, autonomy, and ownership type—also seem to matter in healthcare.

Placing the problem of assessing causality aside, we can try to give some quantitative indication of the most important factors in accounting for the variation in management within a country.

In the United Kingdom, skills are a particularly important factor. A one-standard deviation increase in skills (equivalent to increasing the proportion of managers having clinical qualifications by a quarter) is linked to a 0.2 increase in the management score. A standard deviation increase in either competition or size is each associated with a 0.13 increase in management. The combination of these three independent increases in skills, scale, and competition would be predicted to raise the management score by almost one half a point (0.46) which, as shown in Exhibit 2 is linked to a significant reduction in mortality rates.

Of course, this is a potentially large underestimation of the importance of management for patient outcomes as it looks at only one condition, heart attack death rates. Improving management is likely to raise patient wellbeing across a much wider range of conditions.

**Key insights: competition, skills, scale, autonomy, and ownership type are five factors that account for much of the variation in management practices across hospitals.**

## Implications for UK policy makers, Academic Health Science Centres, Commissioners, acute hospitals leadership, investors, and patients

Our findings contain an optimistic message and present a great opportunity. Against a background of rising patient demand and simultaneous constraints on government health budgets, improving hospital management practices provides a highly efficient way of increasing quality and efficiency. The wide range identified between the best and worst hospitals in all countries, and the correlation between management practices and clinical outcomes, highlight the potential impact of boosting hospital performance.

**Policy makers** should examine the benefits of fostering competition between providers as a powerful mechanism for improvement. This can be achieved by:

- Allowing a heightened level of patient choice
- Encouraging new entrants
- Relaxing restrictions on hospital growth.

Our findings indicate that people who combine clinical and managerial skills are the key to better management performance. The United Kingdom appears to be bottom of the countries examined in this respect. Boosting the proportion of managers with clinical skills via more attractive career paths for clinicians into management (and improving training) could be one way of addressing this.

The finding that larger hospitals are on average better managed suggests that scale is an advantage and that a very fragmented service may be costly. There is a trade-off, of course, since consolidation may also reduce competition and access.

Our research found that private providers are on average better managed. This has at least two implications. First, allowing a diversity of healthcare provision with public and private providers — both domestic and from abroad—would potentially drive managerial improvements. Our work in manufacturing has shown that multinational organisations often bring better management practices that they have learned overseas. Second, the public-private gap is especially wide in talent management. Relaxing some of the labour regulations that depress talent management in the NHS — for example the restrictions on greater regional pay flexibility that have been shown to depress nurses' real wages in high-cost areas such as London and the South East — could also help narrow the gap.

However, the real areas for concern from both a management-practices and clinical outcomes perspective are not so much at the high end of the market but at the low end. As seen in Exhibit 2 the bottom quartile of hospitals delivers disproportionately poor management scores and health outcomes. Therefore, policy makers should consider the interventions required to improve, replace, or close those providers with some urgency.

**Academic Health Science Centres (AHSCs)**, especially those connected to leading business schools, should consider the role they could play in developing the cadre of clinically competent managers this project suggests are needed. Research expenditure represents approximately 5 percent of the budget at Academic Health Science Centres in the United Kingdom, but the findings from this project suggest that, in terms of a breakthrough impact on the health of the population, one of the biggest areas of opportunity might lie in the dissemination and application not only of new findings in medical science but also of management practices. Connecting the dots between research excellence and managerial excellence would seem to be an opportunity AHSCs are uniquely positioned to capture, as are the national and international growth opportunities that the policy considerations suggested above would facilitate. However, AHSCs should also realise that they could be a prime target for high-performing new entrants and therefore should actively consider how to improve their own management practices and outcomes.

**Commissioners** should consider how they gain access to top-performing hospitals for their patients. In an era of GP commissioning and patient choice, this may become particularly important in attracting and retaining patients and the funding that comes with them.

**Hospitals not affiliated with AHSCs** should consider their viability in a world of increased patient choice, as well as their strategy to attract and retain talent, best practices, and patients. They should also identify their core competencies and portfolio of offerings and ensure that these are in line with market demands.

The need for hospitals to improve management practices and the kinds of reforms suggested above could create new opportunities for **suppliers** (e.g. IT solutions or other service offerings) and **new entrants** (e.g. with state of the art facilities that link RFID tracking with electronic patient records) thus potentially creating attractive **investment opportunities**.

**Patients** should understand that some hospitals are simply better managed, provide better care, and are safer than others. Ultimately, patients should ensure they are informed about their hospital's and doctor's outcomes and their options for care. Advocates of patients' rights should consider how they can influence policy makers to ensure that patients have the information they need to choose better care.

Assessing your own management practices: hospitals can assess their own management practices through a free online tool at [www.mckinseyhsi.com](http://www.mckinseyhsi.com)

## Appendix A: Methodology

This research builds on an established methodology for assessing management practices across organisations based on almost ten years of focused study. In our latest round of research, we applied this same methodology to more than 1,100 hospitals in seven countries. We approached hospitals with acute-care units in orthopaedics and cardiology because this made for a more comparable base of hospitals to investigate. Within the hospitals, we interviewed department or unit managers as these managers are senior enough to have an informed perspective on what happens in the hospital but are still closely involved or in touch with the management and operational practices in place.

To assess management practices, researchers conducted double-blind interviews with the hospital managers: the managers interviewed were unaware of the scoring methodology and the criteria they were being scored against while the interviewers were unaware of the hospitals' performance or other distinguishing features of the organisation in which they were conducting interviews.

The evaluation tool defines and scores from one ("worst practice") to five ("best practice") along 20 basic dimensions of management practice. The combination of many of these indicators reflects "good management" as commonly understood, with our main measure of management practices simply the average of these 20 scores. This evaluation tool measures management practices in three broad areas: operations management, performance management, and talent management.

More details of the general methodology can be found in Bloom and Van Reenen, 2010, "Why do Management Practices Differ across Firms and Countries?" *Journal of Economic Perspectives*, Vol. 24, 1, 204-224, <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.24.1.203> and our earlier report Bloom, Dorgan, Dowdy, Genakos, Sadun, and Van Reenen (2007) "Management Practices and Productivity." [http://cep.lse.ac.uk/management/Management\\_Practice\\_and\\_Productivity.pdf](http://cep.lse.ac.uk/management/Management_Practice_and_Productivity.pdf). For details on healthcare management specifically see "The Impact of Competition on Management Quality: Evidence from Public Hospitals" CEP Discussion Paper No. 983, <http://cep.lse.ac.uk/pubs/download/dp0983.pdf>.

## Management practice assessment tool: 3 example dimensions

	①	③	⑤
<p><b>Standardisation and protocols</b> Test if there are standardised procedures (e.g. integrated clinical pathways) that are applied and monitored systematically</p>	<p>Little standardisation and few protocols exists, e.g., different consultants have different approaches to the same treatments; staff and patients are not aware of what should happen when during the patient stay</p>	<p>Protocols have been created, but are not commonly used, e.g., because they are too complicated or not monitored adequately (may be on website or in manual only)</p>	<p>Protocols are known and used by all staff and regularly followed up on through some form of monitoring or oversight; patients are informed of expectations for their progression through the pathway</p>
<p>Example questions:</p> <ol style="list-style-type: none"> <li>1. How do different consultants differ in terms to their approach to the same procedure or treatment?</li> <li>2. What is communicated to patients in advance about the treatments that they will receive?</li> <li>3. Can you give me an example for a common procedure?</li> <li>4. How clear are staff members about how the treatment of specific will be carried out?</li> <li>5. Do consultants have room to move outside any pre-established protocols?</li> <li>6. How do managers know whether consultants are following protocols?</li> </ol>			
<p><b>Performance dialogue</b> Tests the quality of review conversations</p>	<p>The right information for a constructive discussion is often not present or the quality is too low; conversations focus overly on data that is not meaningful. Clear agenda is not known and purpose is not explicitly communicated. Next steps are not clearly defined</p>	<p>Review conversations are held with the appropriate data present. Objectives of meetings are clear to all participating and a clear agenda is present. Conversations do not drive to the root causes of the problems and next steps are not well defined</p>	<p>Regular review/performance conversations focus on problem solving and addressing root causes. Purpose, agenda and follow-up steps are clear to all. Meetings are an opportunity for constructive feedback and coaching</p>
<p>Example questions:</p> <ol style="list-style-type: none"> <li>1. How are these meetings structured?</li> <li>2. During these meetings do you find that you generally have enough appropriate data?</li> <li>3. What type of feedback occurs in these meetings?</li> </ol>			
<p><b>Rewarding high performers</b> Tests whether good performance is rewarded proportionately</p>	<p>People are rewarded equally irrespective of performance level</p>	<p>There is an evaluation system for the awarding of performance related rewards that are non-financial (beyond progression through nursing grades or clinical excellence awards for doctors) at the individual level (but rewards are always or never achieved)</p>	<p>There is an evaluation system for the awarding of performance related rewards, including personal financial rewards</p>
<p>Example questions:</p> <ol style="list-style-type: none"> <li>1. How does your appraisal system work? Tell me about your most recent round.</li> <li>2. Are there any non-financial or financial (bonuses) rewards for the best performers across all staff groups?</li> <li>3. How does the bonus system work?</li> <li>4. How does your reward system compare to that at other comparable hospitals?</li> </ol>			

## Footnotes

- 1 30 days risk-adjusted Acute Myocardial Infarction mortality rate (UK and US). OECD (Health at a Glance, 2009, pg 122) “The in-hospital case-fatality rate following AMI is defined as the number of people who die within 30 days of being admitted (including same day admissions) to hospital with an AMI. Evidence links the processes of care for AMI, such as thrombolysis and early treatment with aspirin and beta-blockers, to survival improvements, suggesting that the case-fatality rate for AMI is a suitable measure of quality of care (Davies et al., 2001). Given the variety of services and system devices that need to be mobilised to provide care for this illness, the AMI case-fatality rate is regarded as a good outcome measure of acute care quality. Currently, AMI case-fatality rates have been used for hospital benchmarking by the United States Agency for Healthcare Research and Quality (Davies et al., 2001) and the United Kingdom’s National Health Service. It has also been employed for international comparisons by the OECD Ageing-Related Diseases Project (OECD, 2003a) and the WHO Monica Project (Tunstall-Pedoe, 2003).”
- 2 Many European hospitals are run to budgets rather than Profit and Loss accounts.
- 3 US: Average score (scale 1-100) over a set of 24 questions aimed at capturing the adoption of best practices with respect to: a) Treatment of patients admitted for heart attack (6 questions), heart failure (4 questions) or pneumonia (6 questions); b) Prevention of surgical infections (8 questions). Source: US=Medicare Hospital Compare dataset, 2009.  
Germany: Average score (scale 1-100) over questions aimed at capturing the adoption national guidelines with respect to the treatment of ambulant acquired pneumonia, Cholecystectomy, Cardiac pacemaker implantation, Gynaecological operations. Source: BQS - Quality Report of German hospitals, 2008).  
Sweden: Percentage of patients receiving coronary angiography after non-ST-seg. elevation myocardial infarction, and percentage of patients receiving clopidogrel therapy after non-ST-seg. elevation myocardial infarction. Source: “Quality and Efficiency in Swedish Health Care – Regional Comparisons 2008”.
- 4 Our research has shown that the positive effect of competition really is causal rather than driven by some other factor. We use the fact that some parts of England have more hospitals for political reasons that are independent of health needs – it is very hard to close hospitals in politically marginal areas. Using this “natural experiment” we show that the effect of competition is even larger than suggested by the simple charts shown here. See “The Impact of Competition on Management Quality: Evidence from Public hospitals” CEP Discussion Paper No. 983 <http://cep.lse.ac.uk/pubs/download/dp0983.pdf>



