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### Physician Leaders and Hospital Performance: Is There an Association?

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Author:

**Dr. Amanda Goodall**

*Senior Research Associate*

*IZA Institute for the Study of Labor.*

**The question of whether hospitals are better run by doctors or non-medically trained managers has been hotly debated for a number of years. Amanda Goodall makes a start at trying to address this issue. She identifies the most highly-ranked hospitals in the US in three specialist fields, and asks who are the CEOs? Results show that hospital-quality scores are about 25 percent higher in physician-run hospitals than in the average hospital.**

In the past, hospitals were routinely led by doctors. That has changed. In the UK and the US, most hospital chief executive officers (CEOs) are non-physician managers rather than physicians (Falcone and Satiani 2008). Of the 6,500 hospitals in the US, only 235 are led by physicians (Gunderman and Kanter 2009).

It has been suggested that placing physicians in leadership positions can result in improved hospital performance and patient care (Horton 2008, Falcone and Satiani 2008, Darzi 2009, Candace and Giordana 2009, Stoller 2009, Dwyer 2010). The UK has recently established five academic health science centres. Their mission is to bring the practice of medicine closer to research in the hope that innovative science can more quickly be translated into clinical procedures (Smith 2009). Physician leadership was also prioritised in the 2008 National Health Service (NHS) review (Darzi 2008, 2009). Some outstanding US medical facilities, for example the Cleveland and Mayo clinics, have explicitly introduced leadership training (e.g. Stoller et al. 2007), and management and leadership education is being incorporated into medical degrees.

Despite the growing body of research into hospital performance, there are currently no empirical studies that assess the physician- leadership hypothesis that hospitals perform better when they are led by doctors. To establish a clear relationship between leadership and organisational outcomes is challenging. Unlike in medical trials, random assignment – in this case of chief executive officers to hospitals – cannot be used. My research provides an empirical inquiry (Goodall 2011). It looks at the leaders currently being hired by hospitals and examines whether CEOs in the higher ranked hospitals are typically physicians or nonmedical managers.

The wealthiest and most prestigious hospitals arguably have the widest choice of leadership candidates. If it can be shown that hospitals positioned higher in a widely- used media ranking are more likely to be led by medical experts rather than managers, this is one form of evidence that physicianleaders may make effective CEOs.

#### Studying CEOs of Top-Ranked US Hospitals

The paper identifies the CEOs in the top ranked hospitals in America, determining whether those hospitals situated higher in the league-table are more likely to be headed by physician-leaders or professional managers. To do this, one particular quality ranking is used, namely, the league tables produced by US News and World Report's "Best Hospitals" 2009. I construct a dataset on CEOs in the top-100 hospitals in the three specialties of cancer, digestive disorders, and heart and heart surgery.

The US News and World Report ranking is designed to inform consumers about where to seek treatments for serious or complex medical problems. Media-generated league tables cannot be viewed as entirely reliable measures of quality; nonetheless, using rating systems as heuristic devices to assess healthcare providers has become common in the US (Schneider and Epstein 1998) and it has been shown to influence consumers' behaviour (Pope 2009). I use this ranking because it is one of the most established.

The data in my study cover the top-100 hospitals in the three specialist fields of cancer, digestive disorders, and heart and heart surgery. Each hospital CEO is then identified and classified into one of two categories: Physician-leaders, who have been trained in medicine (MD); and leaders who are nonphysician managers.

#### Physician-Led Hospitals are Higher-Quality Hospitals

To establish whether hospitals higher in the rankings are more likely to be led by physicians, I use t-tests and regression equations. I do this for the top-100 hospitals in each of the three medical fields of cancer, heart and heart surgery and digestive disorders.

In the field of cancer there are 51 physician- leaders among this set of 100 CEOs. Thirty-three are in the top-50 hospitals, and 18 lead hospitals

in the lower 50 group. For the other two specialities, there are, respectively, 34 physician-leaders in the top-100 hospitals in digestive disorders, and 37 in heart and heart surgery. As can be seen in Figure 1, in each of the three cases, the average hospital quality score of hospitals where the CEO is a physician is greater than the score of the hospitals where the CEO is a professional manager.

In the statistical analyses, the regression equations reveal that the presence of a physician CEO is positively associated with an extra 8 to 9 hospital quality points (at the  $p < 0.001$  level) – in short, hospital quality scores are approximately 25 percent higher in physician-run hospitals than in the average hospital.

To control for the size of hospital, in the field of cancer I included a variable for the number of beds. However, this size variable was insignificant and, importantly, it did not affect the importance of physician-leaders. The US News and World Report ranking also includes an 'Honour Roll' category, which is made up of the most outstanding hospitals; those that achieved high hospital quality scores in at least six specialty fields. Figure 2 shows that the CEOs in 'Honour Roll' hospitals are more likely to be medically trained physician-leaders. Using a simple check I have found that in each year since 2009, when the data in this study were collected, 'Honour Roll' hospitals have continued to be dominated by physician CEOs.

#### **Why are Better Hospitals More Likely to be Led by Physicians?**

This study's results are cross-sectional associations and use one particular hospital-quality ranking. This means they have important limitations. The findings do not prove that doctors make more effective leaders than professional managers. Potentially, they may even reveal a form of the reverse – assortative matching in that the top hospitals may be more likely to seek out MDs as leaders and vice versa. Arguably, however, the better hospitals will have a wider pool of CEO candidates from which to choose, because of the extra status and wealth that they attract. This makes the fact established in this study an interesting one. The results show that hospitals positioned highest in the ranking have made judgements that differ from those hospitals lower down. On average they have chosen to hire physician leaders as CEOs.

These findings are consistent with my earlier work on the role of "expert leaders" in other (non-medical) settings; for example, we have shown that research universities perform better when they are led by outstanding scholars (Goodall 2006, 2009a,b), and NBA basketball teams gain more wins when they have coaches who were previously outstanding players (Goodall et al. 2011).

Cross-sectional analyses can only be suggestive of causality. Nevertheless, it is interesting to consider possible explanations. Experts may have the advantage that they have acquired a deep intuitive knowledge about the core business of their organisations and this may help with decision-making and institutional strategy. Falcone and Satiani (2008) suggest that a physician leader who has spent years as a medical practitioner has acquired integrity that implies "walking the walk" (2008) which, they argue, enhances a leader's credibility.

Physician-leaders who have greater credibility may act as role models for medical staff and their presence may help hospitals to attract talented medical personnel. Hiring practices may be driven by homophily – like-for-like selection – thus, great surgeons and researchers may be more likely to hire other great surgeons and researchers. More importantly, it is probable that physician leaders share the same values as other medically trained staff, and, therefore, they may create better working conditions for doctors, surgeons and nurses.

There has been much journalistic coverage in the UK over recent years about the increase of managers and management practices in UK hospitals. UK hospitals are overwhelmingly led by non-MD managers. Might these manager CEOs have been creating the right conditions for other managers? Such explanations are merely suggestive; the mechanisms are not properly understood.

#### **Conclusion**

There has been much discussion in the US, and increasingly in Europe, about the relative merits of having physicians and non-physician managers in leadership positions. Yet no evidence has been published one way or the other. This work does not establish that physicians make more effective leaders when compared with professional managers; but it starts the empirical process. It finds – in each of three disciplinary fields – that hospitals positioned higher in the US News and World Report's "Best Hospitals" ranking are led disproportionately by physicians. The next, and vital, step for researchers is to design longitudinal inquiries into the possibility that physician-leaders improve the performance of hospitals.

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