Orthopedic Specialty Hospitals: Centers of Excellence or Greed Machines?

NEIL BADLANI, MD, MBA; SCOTT BODEN, MD; FRANK PHILLIPS, MD

**abstract**

Orthopedic specialty hospitals have recently been the subject of debate. They are patient-centered, physician-friendly health care alternatives that take advantage of the economic efficiencies of specialization. Medically, they provide a higher quality of care and increase patient and physician satisfaction. Economically, they are more efficient and profitable than general hospitals. They also positively affect society through the taxes they pay and the beneficial aspects of the competition they provide to general hospitals. Their ability to provide a disruptive innovation to the existing hospital industry will lead to lower costs and greater access to health care.

However, critics say that physician ownership presents potential conflicts of interest and leads to overuse of medical care. Some general hospitals are suffering as a result of unfair specialty hospital practices, and a few drastic medical complications have occurred at specialty hospitals. Specialty hospitals have been scrutinized for increasing the inequality of health care and continue to be a target of government regulations.

In this article, the pros and cons are examined, and the Emory Orthopaedics and Spine Hospital is analyzed as an example. Orthopedic specialty hospitals provide excellent care and are great assets to society. Competition between specialty and general hospitals has provided added value to patients and taxpayers. However, physicians must take more responsibility in their appropriate and ethical leadership. It is critical to recognize financial conflicts of interest, disclose ownership, and act ethically. Patient care cannot be compromised. With thoughtful and efficient leadership, specialty hospitals can be an integral part of improving health care in the long term.

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**Drs Badlani and Phillips are from the Department of Orthopaedic Surgery, Rush University Medical Center, Chicago, Illinois; and Dr Boden is from the Department of Orthopaedic Surgery, Emory University, Atlanta, Georgia.**

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**Correspondence should be addressed to: Neil Badlani, MD, MBA, Department of Orthopaedic Surgery, Rush University Medical Center, 1611 W Harrison St, Ste 300, Chicago, IL 60612 (nbadlani@gmail.com).**

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Orthopedic specialty hospitals provide a high level of patient care and offer potential economic efficiencies, but they are under scrutiny for possibly causing overuse of medical services and providing unfair competition to general hospitals.

Throughout history, specialty hospitals of many disciplines, such as pediatrics, obstetrics, psychiatry, and oncology have been known to provide excellent care. A prime example is the Shouldice Hospital in Ontario, Canada, which solely performs inguinal hernia repair, approximately 7500 per year. It has the lowest recurrence rates in the world, and their management has stated, “we are good at what we do and we don’t want to do anything else.”

The current debate on specialty hospitals focuses on the recent rise of orthopedic, cardiac, and other surgical hospitals. Hospitals are defined as specialty hospitals if 45% of their discharges are in 1 specialized area or 67% are in 2 areas. Approximately 70% of these hospitals have some level of physician ownership. Virtually all are for-profit, compared with 20% to 38% of general hospitals. These hospitals are typically small, with a mean of approximately 20 beds. They have a lower percentage of Medicare and Medicaid revenue compared with general hospitals. In 2005, approximately 100 such specialty hospitals existed, approximately half of which were orthopedic. This number had tripled over the previous 15 years and has continued to grow.

PROS OF SPECIALTY HOSPITALS

Specialty hospitals have numerous advantages. From a medical standpoint, they provide a higher quality of care and increase patient and physician satisfaction. Economically, they are more efficient and profitable than general hospitals. They positively affect society through the taxes they pay and the beneficial aspects of the competition they provide to general hospitals.

The market for health care is changing. The demand for health care is constantly increasing because of the increasing elderly population and new technologies that are advancing the field. Consumer preferences are changing, with patients becoming more involved in choosing their health care. Because of easier access to information through the Internet and direct-to-consumer advertising, patients are more knowledgeable about their health care choices and have higher expectations. This has led to an emphasis on quality of care and customer satisfaction and is the main reason for the growth and success of specialty hospitals because they are designed to be patient-oriented care centers.

Specialty hospitals are able to provide high-quality care because they focus on their specialized core competency, which promotes learning and improvement of these specific processes. They have a higher nurse-to-patient ratio, with each nurse having an average of 10 to 15 hours per patient per day compared with 6.4 in general hospitals. The entire staff, including nurses, therapists, and anesthesiologists, is more specialized.

Cram et al studied >51,000 total hip arthroplasties and 99,000 total knee arthroplasties in 38 specialty hospitals and 517 general hospitals and found that the odds of adverse outcomes were significantly lower in specialty hospitals than in general hospitals after adjusting for patient severity and procedural volume. A study that stratified 3800 hospitals into quartiles based on their amount of specialization found that death, infection, deep venous thrombosis/pulmonary embolism, myocardial infarction, and bleeding decreased with specialization. International examples also exist, with the Coxa Hospital in Finland reporting a total joint arthroplasty complication rate of 1% compared with 10% to 12% in general hospitals.

Specialty hospitals place a great deal of importance on patient satisfaction, with 92% collecting specific data on this. They have a more predictable surgery schedule because of a lack of emergent surgeries. The Center for Medicare Services report to Congress in 2005 concluded that specialty hospitals have a higher level of patient satisfaction than general hospitals in the same area. Since opening, the Emory Orthopaedics and Spine Hospital in Atlanta, Georgia, has consistently been rated in the 99th percentile of patient satisfaction surveys. They stress a patient- and family-centered culture of care. Patient experience is paramount, and amenities, such as private rooms equipped with high-definition televisions and wireless Internet, are key.

Physicians prefer to work at specialty hospitals. According to the American Medical Association, physicians want “greater involvement in governance and management, reinvestment of profits to maintain state-of-the-art care and equipment, and greater control over scheduling and operating room.” A survey of physicians revealed that they believe specialty hospitals gave them control over investments in their workplace, shorter operating room turnovers, newer equipment, a better work environment that attracts the best nurses and staff, and an overall culture of cooperation. In contrast, general hospitals were perceived to be less efficient and overly bureaucratic. At Emory Orthopaedics and Spine Hospital, orthopedic surgeons reported that their caseloads have doubled between 2007 and 2010 because of their new specialty hospital, which opened in 2009, with a small increase in the department staff. This is due to incentivizing anesthesiologists per case and an overall culture that promotes efficiency and cooperation between providers.

From an economic standpoint, specialty hospitals also have the perceived advantages that come with specialization. Their smaller size and lesser hierarchy generally lead to more focused and consistent management goals and better alignment of incentives of managers and providers. Between 1991 and 2000, a 31% increase in specialization of US hospitals led to an 8% decrease in costs per admission. Economies of scale likely exist to some degree in specialty hospitals, and...
their high volume leads to decreased costs per unit. Orthopedic specialty hospitals also have the advantage of performing procedures that are generally more profitable according to Medicare reimbursement. This system does not adjust for patient complexity, which also tends to favor specialty hospitals.

The actual efficiency and profitability of specialty hospitals has not been as positive as predicted. According to the Medicare payment advisory committee, orthopedic specialty hospital costs are 20% to 30% higher than general hospitals. Carey et al. showed that specialty hospital costs were 46.8% higher than the minimum feasible costs that a regression analysis estimated, compared with general hospitals, which had costs 28.1% higher than minimum feasible. These costs are higher despite length of stay in specialty hospitals, which have been shown to be 20% to 28% shorter for the same procedures. These higher costs are probably due to higher capital costs, increased staff and compensation, unused capacity, and low inpatient volumes. The data indicate that specialty hospitals are not operating as efficiently as predicted, although some of the excess cost may be due to a higher level of care (eg, more patient amenities and nurses).

The competition that specialty hospitals provide to general hospitals has several positive effects on society. General hospitals are forced to be more efficient. Schneider et al. studied 548 general hospitals and found that profit margins for general hospitals were higher when at least 1 competing specialty hospital existed in the same market, and these margins increased over time. General hospitals with a competing specialty hospital in their market had 4.5% lower costs than general hospitals without competing specialty hospitals. Carey et al. showed that the entry of a specialty hospital resulted in increased offerings of competitive services by general hospitals, particularly high-tech imaging. Many anecdotal examples exist of general hospitals improving their performance to compete with new specialty hospitals. St. Mary Medical Center in Bucks County, Pennsylvania, spent $13.2 million to upgrade its cancer program to compete with a new breast cancer and cosmetic hospital in the area.

Specialty hospitals also contribute to society by paying significantly more taxes than many nonprofit general hospitals that provide uncompensated care and receive tax deductions, subsidies, low-interest-rate bond financing, and other financial advantages. A US Health and Human Services report from 2007 concluded that the net tax revenue from specialty hospitals is greater than the value of uncompensated care provided by competitor tax-exempt community hospitals. This relative comparison is difficult to measure, but other data support this conclusion. Greenwald et al. studied 10 specialty hospitals and 21 general hospitals and found that the sum of their taxes paid and uncompensated care costs as a percentage of revenues was 5% for specialty hospitals and 2.5% for general hospitals. Twenty-one hospitals in Cook County, Illinois, received approximately $3 in tax benefits for every $1 in charity care they provided.

**CONS OF SPECIALTY HOSPITALS**

Specialty hospitals have been a target for criticism for real and theoretical reasons. A few drastic medical complications have occurred at specialty hospitals. The presence of physician ownership can present potential conflicts of interest and lead to overuse of medical care. Specialty hospitals have been accused of competing unfairly with general hospitals, resulting in their demise. Specialty hospitals have also been scrutinized for increasing the inequality of health care and continue to be a target of government regulations. It is the responsibility of physicians to behave ethically and lead specialty hospitals in a manner that minimizes potential negative effects.

Specialty hospitals have come under fire because of a few isolated catastrophic medical complications. A 44-year-old man went into cardiac arrest and died after an elective spinal procedure at the 14-bed West Texas Orthopaedic Hospital in Abilene, Texas. No doctor was readily available at the time of the incident. The Colorado Orthopaedic and Surgical Hospital in Denver, Colorado, was forced to close for several months after a 25-year-old woman died, partially because of receiving the wrong dose of a medication. In response, the hospital changed its structure to provide better emergency training to staff, more physicians equipped to deal with emergencies, and improved communication with the neighboring general hospital in case of the need for transfers. Physicians who practice at specialty hospitals must be available in case of emergencies, and smaller specialty hospitals must have relationships with neighboring community hospitals in case a higher level of care is needed in emergencies.

Surgeons at Emory Orthopaedics and Spine Hospital reported that it was sometimes inconvenient to not have all medical services available at their specialty hospital. They have had cases cancelled because of difficulty inserting Foley catheters and did not have the benefit of a urologist on site. This has resulted in a prescreening program to identify patients who may have a difficult Foley placement. Medical hospitalist physicians are always available for patient care at Emory Orthopaedics and Spine Hospital, and an ambulance is always prepared to transport patients to the main hospital in 12 minutes in case of emergency.

Perhaps the most significant criticism of specialty hospitals is that physician ownership may lead to an overuse of services, which increases health care costs. The Stark II Legislation enacted as part of the Omnibus Budget Reconciliation Act of 1983 (H.R. 2264, sec 13562) prohibits physicians from referring patients to a medical facility in which they have a financial interest. However, a whole-hospital exemption exists, in which physicians can refer to a hospital that they partially own because...
use ethical judgment in these situations. Surgeons always have financial incentives to operate regardless of whether they are involved in the ownership of the hospital, but the Hippocratic Oath dictates that no harm is done to patients. The American Medical Association guidelines permit physicians to refer patients to hospitals in which they are owners if they believe the care there is exceptional or more efficient. Physician ownership must be disclosed to patients who should have the right to choose where they receive care. Physician owners should be subject to ongoing reviews of their use, recognize these conflicts of interests, and be willing to give up their privileges at general hospitals in some cases if necessary. 

Specialty hospitals have been accused of providing unfair competition to general hospitals by cherry picking healthier, well-insured patients and focusing on profitable services. General hospitals need profitable patients and procedures to cross-subsidize services, such as trauma and emergency care, which are often costly and underinsured. The data do not support this contention. Lu et al. reported that total joint arthroplasties at competing general hospitals in 3 markets did not decline significantly after the entry of a specialty hospital in their area. The Center for Medicare Services report to Congress also concluded that competing specialty hospitals have a minimal effect on the operations and financial performance of general hospitals. Although Medicare previously decreased for general hospitals, no significant effect occurred on profit margins. Lost revenue was offset by providing newer profitable services, and costs were reduced to maintain margins. The US General Accounting Office surveyed 600 general hospitals, and most reported that operational changes made in recent years were from the competition of other general hospitals, ambulatory surgery centers, imaging centers, and specialty hospitals. As the health care industry becomes more competitive, the practice of cross-subsidizing unprofitable services with profitable ones will become obsolete because it is not economically sound. In the private sector, shareholders do not allow unprofitable services to persist and take away from overall profits. Each service provided must be as efficient as possible, and uncompensated care must be subsidized by the government.

Orthopedic specialty hospitals likely contribute to the inequality of health care by only offering premium services to those with the means to afford them. Approximately 1% of patients in orthopedic specialty hospitals are Medicaid patients, compared with 16% in other orthopedic hospitals. Thirty-three percent of orthopedic specialty hospitals have emergency rooms, which typically provide a significant amount of care to uninsured and underinsured patients. Critics of specialty hospitals would contend that this is another example of the unfair competition of specialty hospitals. However, emergency rooms provide significant ancillary revenues through imaging studies, laboratory tests, cardiac catheterizations, and many other procedures. This revenue gets counted in other departments of the hospital, therefore undervaluing the actual positive financial effect of emergency rooms.

Because of the many negatives mentioned, specialty hospitals continue to be a focus of government regulation. Currently, the most notable regulation is the ban on new specialty hospitals included in the 2010 Affordable Care Act. If this law remains, specialty hospitals may become extinct. Some states have already banned specialty hospitals, as was done by Governor Bush in Florida in 2004. Most other states have certificate of need laws that limit the formation of new hospitals.
report to Congress that found many of the claims against specialty hospitals to be false. The report concluded that specialty hospitals and general hospitals can coexist and that many general hospitals have improved their services to compete. The report called for transparency in disclosure of physician ownership, refinement of the antiquated Medicare diagnosis-related group reimbursement system, and improvement in interhospital transfers.2

**Disruptive Innovations**

Specialty hospitals are examples of disruptive innovations that permanently change the health care landscape and lead to decentralization and lower costs. Disruptive innovations, as described by Christensen,27 are innovations that disrupt an existing market. They are cheaper, simpler, more convenient products or services that start by meeting the needs of less demanding customers. They are usually initially lower in cost and inferior in quality, but they eventually improve to meet the needs of more demanding customers and often displace the existing technology. Contrary to disruptive innovations, sustaining innovations are products that are marketed toward the higher end of the market and provide incremental increases in technology at high costs.27

Some examples of disruptive innovations include the mini steel mills of the 1970s that used locally available scrap to produce low-margin rebar and were initially ignored by the larger established mills, which produced a full gamut of steel products. Over time, the mini mills became more efficient, increased production, and eventually made the older mills obsolete. Online brokerages that once allowed limited services improved enough to displace most brick and mortar brokerages today. Media Player 3s have done the same to compact discs. Some products can be sustaining to 1 market and disruptive to another, such as the iPhone, which is a sustaining innovation to the smart phone industry but disruptive to the digital camera industry.

The medical industry places great emphasis on sustaining innovations. Medical research disproportionately focuses time and money on them. Hospitals compete to have the best positron emission tomography scanner or expensive surgical robot. Instrument manufacturers constantly try to perfect alternative bearing surfaces and market them to patients, who also become most interested in sustaining innovations. This cycle raises health care costs, and most sustaining innovations appeal to only the most complicated patients and overshoot the needs of the majority. Orthopedics has many other examples of sustaining innovations that are costly and often unnecessary, such as computer navigation, total disk arthroplasty, bone graft substitutes, and locking plates.

Many disruptive innovations exist in orthopedics. Portable ultrasound and mini C-arms have opened new markets and allowed for more procedures to be performed in emergency rooms and offices. Nurse practitioners and physician assistants are lower-cost alternatives, which have increased access to health care. The surgical implant generation network nail has provided fracture care worldwide. It can be placed with hand drills with no intraoperative imaging. As this technology improves, it will likely become applicable to other fractures as well. Specialty hospitals are the ultimate disruptive innovations, providing a simpler, more convenient alternative to general hospitals, with constantly improving processes.28

By acting as a disruptive innovation, specialty hospitals will lead to the decentralization of health care. Decentralization occurs when a larger population of less skilled people can do more in a convenient, less expensive setting than was historically performed by expensive specialists in a centralized inconvenient location. This has occurred in the computer industry, as million-dollar mainframe computers gave way to microcomputers, which were eventually overtaken by the personal computer. The industry continues to evolve with laptops and smart phones. This cycle leads to lower costs and more efficiency. The health care industry is now starting this cycle, mirroring the computer industry approximately 30 years ago.29

Specialty hospitals are the central figures in the evolution and decentralization of the health care industry. They can embrace other disruptive innovations as part of their business model. Their technology is improving to surpass general hospitals, and they are becoming the price setters in the industry. The challenge will be to overcome the obstacles of general hospitals, government, and insurance companies, which have interests in protecting the status quo.

**Conclusion**

Overall, the competition between specialty hospitals and general hospitals has provided added value to patients and taxpayers. Services and efforts to control costs are improving. Attempts are being made to improve the accuracy of the reimbursement system, the process of interhospital transfers, and the transparency of ownership disclosure.

Specialty hospitals have had great successes. At Emory Orthopaedics and Spine Hospital, the caseload has doubled, the length of stay has decreased by 20%, and patient satisfaction is in the 99th percentile. Despite having no physician ownership and no conflicts of interest, the surgeons are happier and more productive, and the relationship with the university hospital has not suffered.

On the whole, the strengths of specialty hospitals are that they are patient-centered and improve the quality of health care. Physicians also prefer them to general hospitals. Theoretically, they are more efficient than general hospitals. The taxes they pay are more beneficial to society than the uncompensated care provided by general hospitals. The competition they provide leads to improved care and lowers costs for all. Finally, their potential as a disruptive innovation will lead to the critical decentralization of the health care industry.
Physicians must take an active role in the leadership of specialty hospitals, recognize financial conflicts of interest, disclose ownership, and act ethically. Physicians must also help reform the antiquated payment system. The primary concern should be patient care, and physicians must be available when necessary and be willing to transfer patients to other facilities if it is in the patients’ best interests. With thoughtful and efficient leadership, specialty hospitals can be an integral part of improving health care in the United States in the long term.

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