Costs of Physician-Hospital Integration

Na-Eun Cho

Abstract: Given that the enactment of the Patient Protection and Affordable Care Act of 2010 is expected to generate forces toward physician-hospital integration, this study examined an understudied, albeit important, area of costs incurred in physician-hospital integration. Such costs were analyzed through 24 semi-structured interviews with physicians and hospital administrators in a multiple-case, inductive study. Two extreme types of physician-hospital arrangements were examined: an employed model (ie, integrated salary model, a group of physicians integrated by a hospital system) and a private practice (ie, a physician or group of physicians who are independent of economic or policy control). Interviews noted that integration leads to 3 evident costs, namely, monitoring, coordination, and cooperation costs. Improving our understanding of the kinds of costs that are incurred after physician-hospital integration will help hospitals and physicians to avoid common failures after integration.

METHODS

Setting

The study employs a multiple case, inductive research design involving 2 types of physician-hospital arrangements: the employed model (ie, an integrated salary model whereby salaried physicians provide medical services on behalf of the employing hospital), and private practice (ie, a contractual arrangement between a hospital and physician practice, being a physician or group of physicians who practice medicine independently of a hospital). The investigator chose these over other types of physician-hospital arrangements (eg, equity model, foundation, and management service organization) with an eye to examining the distinct effect of physician-hospital integration on physician behavior. This research design facilitates investigation of how physician behavior varies across hospital boundaries and, ultimately, of the unique costs incurred by integration.

Data Collection

The investigator conducted, between April and November 2012, face-to-face or telephone interviews with 22 physicians and 2 hospital administrators. Two versions of the interview were tailored to each group of informants, and physician informants were selected exclusively from the field of surgery (except 1 informant) to avoid specialty-specific bias that might otherwise affect physician behavior. The semi-structured, 20 to 60 min interviews were recorded, and informed consent was obtained from all interviewees.

The investigator began with the open-ended question, “How do you think physician behaviors differ between the case in which physicians are in an employed model and the case in which they are in private practice?” Interview questions were subsequently narrowed to identify systematic patterns across different physician-hospital arrangements and reveal the origins and nature of costs that emerge in the case of physician-hospital integration. The present study aiming to reveal unknown as well as known costs imposed by integration, and perhaps to reveal some expected costs to be insignificant, the interviews were designed so as not to be constrained by costs (eg, influence costs or social comparison costs) described in the previous literature. The interview transcripts that form the basis of the analysis filled 245 typed, single-spaced pages.

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From the Consumer/Organizational Studies, Clarkson University, Potsdam, NY, USA.

Correspondence: Na-Eun Cho, Consumer/Organizational Studies, Clarkson University, Potsdam, NY, USA (e-mail: ncho@clarkson.edu).

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TABLE 1. Summary of Results

| Costs of Physician-Hospital Integration | Quote |
|----------------------------------------|-------|
| Monitoring-related costs | Costs that arise from monitoring physician behavior and imposing constraints on latitude | Administrative costs: “I still have the same manager actually, but... expenses from the hospital are just a lot higher.” |
| Coordination-related costs | Costs that arise from lack of coordination and communication | Demotivation from lack of good performance measures: “I work my tail off and I met my personal goal and it was above that, but yet my bonus was very, very small, and so is that bonus even worth it? Do I really care, or could I not work my butt off as much and just not get the bonus?” |
| Cooperation-related costs | Costs that result from abundant social connections | Delayed decision-making and inability to adapt: “[Y]ou should bring it back to your department and then you can discuss it and then we’ll meet next month.” |

Data Analysis

Emerging themes were identified by means of an inductive analysis of interview notes and transcripts using an analysis table. Results reported here reflect responses from informants who worked in both physician-hospital arrangements and private practice as well as those who worked in only one or the other of these arrangements. The latter, for purposes of comparison, were often asked how they would expect their behavior to change where they move to a different arrangement (Table 1).

RESULTS

The investigator first categorized differences in behavior between physicians employed by hospital systems and those in private practice. Analysis of the data from semi-structured interviews with 22 physicians (equally distributed between private practice and the employed model) and 2 hospital administrators revealed 3 major differences in physician behavior. The investigator then analyzed how these differences generate costs. Responses quoted here are those who best describe differences in physician behavior and corresponding changes in costs (responses not included here that provide similar information are available upon request).

Differences in Physician Behavior Between 2 Physician-Hospital Arrangements

Monitoring

Monitoring systems used in the employed model as the basis for assessing whether physicians are meeting strategic goals (as for quality control, cost efficiency, and safety) account in large part for observed differences in physician behavior between the employed model and private practice. Hospital administrators establish rules and protocols that affect physician behavior (with respect, eg, to patient composition and load, numbers of scheduled surgeries, and referrals) and develop performance measures to assess physician output. Physicians in the employed model, unlike their private practice counterparts who monitor and assess their own performance, are intensely affected by these monitoring systems. Explained one interviewee: “I think the main points are [that] in the hospital employed group there is more administration. There is more structure. There are more meetings. There are more standards, checks, and balances. There is some loss of autonomy.”

That private practice physicians’ earnings depend largely on how much they work is sufficient motivation, in the absence of a strict monitoring system, to generate enough revenue to pay their bills and their staffs. These practitioners do not need to be told, for example, whether and when they can take a vacation. The productivity and quality of output of physicians in the employed model are strictly monitored by the hospitals that pay their salaries and provide their benefits. These physicians must conform to schedules prepared in advance and are expected to be in the hospital and attend meetings aimed at improving quality and productivity. One of the main behavioral differences observed between physicians in the employed model and private practice is thus the constraint on latitude imposed by monitoring systems.

Monitoring-Related Costs

Implicit in monitoring systems is the need for administration. Professional administrators employed to establish policies and procedures, maintain computer systems and databases, allocate budgets, and track accounts and finance represent a significant cost. A reduction in unit administrative cost expected as the size of a hospital system (eg, number of physicians) increases is not always realized, according to interviews with physicians. Observed one:
[W]hen I used to do my own billing [in private practice], I had a billing girl. She worked part-time. I think I paid her about $18,000 a year to do the billing, and she was very good at collecting money... But in the hospital they don't have the incentives to collect... [A]nd then they charge you, like the hospital where I work is charged 6% of the collections... as the billing fee. Well, if you collect over a million dollars a year, at 6% that's a lot; it's $60,000 per million and... that's a lot more than I paid a billing girl of my own... I still have the same manager... but now she manages two practices instead of just one... the difference is again some of the expenses from the hospital are just a lot higher. I had insurance for my employees, but they have... different kinds of insurance and it's more expensive.

Unlike staff members who perform relatively simple tasks like billing and coding, hospital administrators not only manage the staffs who perform these tasks, but also direct the activities of physicians and hospital departments. As the number of departments to be monitored increases, the time and skill administrators can devote to each department diminishes. Administrators in the employed model, unlike those employed by a private practice, are inclined to feel de-motivated and uninvolved in the system, which can reduce the overall effectiveness of monitoring. This does not explain, however, why the employed model does not always enjoy scale economies, as, in the example, in billing collection. One reason that anticipated scale economies might not be realized is the need to motivate employees via rewards; the high salaries and expensive benefits' hospitals must often provide to multiple layers of administrators can easily offset any gains that might be realized from economies of scale.

Monitoring systems are also implicated in the cost incurred when hospital administrators' efforts to increase productivity exert a negative impact on physicians' incentive to work, stemming, many physicians indicated, from lack of good parameters by which to judge productivity in the field of medicine. There exists a significant gap between physicians' and administrators' perceptions of what constitutes efficiency and productivity, as management tends to focus on tangible metrics that do not necessarily reflect subtle nuances in the behavior of physicians treating patients. As a result of disagreements over performance measures, physicians who come to believe that their work is not rewarded will lack motivation to work hard. According to one physician:

When you get to corporate board level, they don't have intangible reporting; they need tangible numbers, so they need a metric... [T]he easiest thing to get pushed up... is volume of patients and purchasing objects... It is easy to see, “What did you pay for the keyboard, oh, wait, we should go to a different vendor.” What is... challenging and impossible... to report is efficiency, and there's a variety of reasons for it; one, hospitals have bad logistics systems... they don't run lean and they don't daily report out on efficiency. So you can have great decisions where purchasing will say look how much we've saved, but it can mess up the efficiency of an operation and that doesn't show up at the board until two or three business quarters later... revenue goes down because case volume is down in an operating room. And no one knows why case volume is down... [W]hat happens at a board meeting is, boards don't like silence, so usually... someone will say, “[O]h, well, we're in Michigan, you know; it's the economy,” and everyone goes, “[O]h, yeah, it's the economy.” They don't see it.

Absent perfect performance measures, metrics become physicians’ only incentive: physicians in the employed model thus have an incentive only to work to the extent that they are not penalized. Whereas behavior is readily observed among partners in private practice, physicians in the employed model can get away with slacking. Observed one informant:

You probably need to add on some more cases to help the department out, to meet the department’s... and section's goals... and some people are in tune with that and some people could care less, and... just... do whatever they want... because there are no detrimental effects of not meeting your goals right now... [W]e get a base salary, and then we get the supplement at the end of the year; supposedly we need to have a 3% margin above our goals for the year as a department in terms of what we bill or collect. So we've got to be 3% above our target in order... to get a bonus... so there is an incentive to bill more, do more... if the department... meets that 3% margin... the bonuses that go out supposedly are based on your clinical productivity, your research productivity, that kind of thing. It has never really been spelled out for us. I don't really know how they come up with the numbers for bonuses. We have only gotten bonuses one of the three years I have been here because we have only made our 3% margin the first year I was here and the bonus I got was actually quite small... This year we would have met, but some of our partners... did not fill out their billing sheets... so we missed our bonuses. So nobody gets the bonus this year... [O]ne partner and I were talking... “I work my tail off and I met my personal goal and it was above that, but yet my bonus was very, very small, and so is that bonus even worth it? Do I really care, or could I not work my butt off as much and just not get the bonus?”

Physicians whose bonus system is structured at a group rather than an individual level often lack an incentive to work hard. Free-riding behavior not controlled by hospitals'
monitoring systems, as in the example above, exacerbates the distortion of physician behavior, further diminishing the incentive for physicians to devote effort to improving their hospitals’ performance. Monitoring costs are thus high in the employed model, as illustrated in the examples above, and lack counterparts in private practice.

Coordination

A second difference identified by interviewees between physician behavior in the physician-hospital and private practice arrangements is that in the employed model physicians are expected to work closely across departments to achieve common objectives. Coordination, the process of enabling, through the assignment of roles and responsibilities, different departments to work together is employed by hospital systems to ensure that physicians know to whom to report problems, thereby reducing confusion and possible internecine struggles. It may be argued that physicians in private practice groups may also be assigned roles, but there is less need for coordination among physicians in the same specialty in private practice than among those in different specialties in a hospital system.

Coordination-Related Costs

Lack of coordination and communication across departments can impede the decision-making process. Decisions can be made, and consensus reached, quickly among physicians in private practice, whose input into how the practice should be run often reflects shared values. Consensus is much more difficult to achieve in the employed model owing to the greater number of people representing different areas who must weigh in. Delayed decision-making and inability to adapt were commonly reported characteristics of the employed model. Recalled one physician who had worked under that arrangement:

> [W]hen I was chairman of the orthopedic department … I would sit at these different committees, and … they want to make a decision. I’d say, okay, let’s do it, and they’d say you should bring it back to your department and then you can discuss it and then we’ll meet next month … and I said no … my department voted me … chairman so that I can make these decisions … So let’s just go ahead and do it. But it doesn’t work that way … [I]f I want to buy a car, it doesn’t take me … long to make a decision on which a car I want and how much I’m willing to spend on it, whereas these people, you have to bring it back to that committee … and by then you’ll be already looking at next year’s model or something.

Coordination costs can also result from interdepartmental competition for money, surgery time, and supplies, among other resources. The resulting conflict that can be generated as departments or other work groups try to undercut one another is evidenced in the example below. Such intense rivalry can play out in physicians spending inordinate amounts of time reporting (sometimes falsely) problems to get funding from the head of the administration as well as decisions that serve the interests of one area of specialty obviates the need to establish boundaries and assign roles, and the notion that scarce resources need to be protected deters rivalry among members driven to work for the continued existence of the practice.

Improved quality of care may be the desired end of assigning roles and responsibilities to advance the common goals of a hospital, but can come at the expense of unexpected costs occasioned by delayed decision making, intense rivalries between departments, and impairment of physician motivation.14

Cooperation

A third difference in physician behavior between the integrated and private practice models revolves around cooperation. Hospital patients are routinely cared for by other doctors when the focal doctor is out of town or otherwise unavailable, and hospital physicians are often requested to restrict referrals to physicians who are employed or otherwise affiliated with the hospital. Many former private practice physicians presently employed by hospital systems reported that they currently see referrals from doctors who previously did not send them patients.

> “[T]he hospital,” explained one, “tells their employees to keep … referrals … to those who have some kind of employment … or affiliation with the hospital,” a behavior not observed in private practice. Private practice physicians are less likely to share patients because their patients generally prefer a strong attachment to a particular doctor, and reputation building and maintenance of their referral bases discourage private practice physicians from restricting referring doctors to a particular system.

Cooperation-Related Costs

Cooperation among physicians within a hospital system, excessive self-referral, in particular, incurs social attachment costs, that is, costs incurred when decision making is distorted as a result of abundant social connections. One respondent characterized the situation thus.

> [H]ospitals are big business, multi millions of dollars going on, and if a patient has knee arthritis, it needs a
knee replacement. Okay. There are 10–12 orthopedic surgeons in this town who can do an excellent knee replacement. So all things being equal, the family physician who oversees that patient is going to send them to someone within their referral hospital group as opposed to sending them to a physician in private practice. If there is a surgeon outside the hospital group that does a “better job” at a particular procedure, but the other surgeon within the group still performs it, I can tell you that the surgeon within the group will be referred the case.

Such self-referral can be expected to impair overall quality of delivered care if physicians in the employed model refer patients on the basis not of who is best suited, but of who is within the circle of the hospital system. Also, private practice primary care physicians, when their patients do not come back, eventually stop sending patients to the hospital system, thereby limiting patient growth in the future. These costs lack counterparts in the market transaction because private practice physicians refer patients regardless of hospital affiliation. Self-referral may benefit the financial health of a hospital system in the short term, but will eventually compromise quality of care.

Hospitals also employ cooperation among employed physicians to provide continuous care at the potential cost of patient satisfaction. Patients desiring to see the same doctor often cannot in the hospital setting because the physicians work shifts and are not on call every night. Physicians would need to put in time not required by the hospital to accommodate these patients. Patients for whom a tight physician–patient relationship is important are likely to end up dissatisfied in this context, as one respondent observed.

In the hospitals’ model they get . . . different hospitalists every two, three days. And they don’t have the sense of continuity and “who’s my doctor” . . . [S]o some of the patients’ satisfaction with that [employed] model is not very high.

Evidence of diminished patient satisfaction consequent to weak patient attachment is provided by the fact of a large proportion of highly ranked doctors in community magazines and newspapers typically being in private practice rather than in the employed model.

**DISCUSSION**

Scholars have emphasized such benefits of physician-hospital integration as better quality of care and efficiency improvement, but paid little attention to costs arising from the differences in behavior between physicians employed in integrated and private practice models. The present study reports evidence of costs associated with monitoring, coordination, and cooperation that help to explain why several hospitals and physician groups experienced degraded financial performance postintegration.

The present study has acknowledged limitations. First, it considers only 2 simplified physician-hospital arrangements. Of many physician-hospital arrangements that vary with the structure and process of physician-hospital integration including physician hospital organizations, management service organizations, and foundation models, in the interest of tractability only 2 extreme versions of integration, independent practice associations (the least integrated case, private practice) and the integrated salary model (the fully integrated case, the employed model), were chosen for the present study. Second, the investigator limited the informant groups to the field of surgery to avoid other biases. Results might have differed had the informant groups been, for example, primary care physicians.

Future research would do well to explore middle ground physician-hospital arrangements with an eye to how costs of integration vary across different levels of vertical integration. Future research could also examine how physician behavior is affected by changes in physician-hospital arrangements (eg, from private practice to the employed model when the former are acquired by hospital systems). The present study compares snapshots of physician behavior between 2 arrangements; examining gradual changes in physician behavior during transitions between arrangements could reveal a corresponding gradual development of costs of integration.

The acknowledged limitations notwithstanding, the foregoing examination of how physician behavior differs between 2 extremes of organization, and identification of costs that arise in the integrated model, fills a gap in the previous literature that is not grounded in empirical data. Also, the present study has important policy implication. One of the structural changes enforced by the Affordable Care Act is the physician-hospital integration, where physician groups and hospitals become part of one organization. On-site observations in this study, however, shed light on the costs of integration such as high administrative costs or low quality of care (eg, low patient satisfaction). The results of this study reveal that enforcing an integrated delivery system without careful attention to potential costs might invite the kind of widespread failure observed in late 1980s and mid-1990s.

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Appendix A. Characteristics of Interview Subjects

| Subject | Physician-Hospital Arrangement | Specialty  | Gender | Location       |
|---------|---------------------------------|-----------|--------|----------------|
| 1       | Administrator 1                 | n/a       | Male   | Detroit, MI    |
| 2       | Physician 1                      | Employed model | Surgery | Male | Detroit, MI    |
| 3       | Physician 2                      | Employed model | Surgery | Male | Detroit, MI    |
| 4       | Physician 3                      | Employed model | Surgery | Male | Detroit, MI    |
| 5       | Physician 4                      | Private practice | Surgery | Male | Detroit, MI    |
| 6       | Physician 5                      | Employed model | Surgery | Male | Detroit, MI    |
| 7       | Physician 6                      | Private practice | Surgery | Male | Detroit, MI    |
| 8       | Physician 7                      | Employed model | Surgery | Male | Saginaw, MI    |
| 9       | Physician 8                      | Employed model | Surgery | Male | Saginaw, MI    |
| 10      | Physician 9                      | Private practice | Surgery | Male | Saginaw, MI    |
| 11      | Physician 10                     | Private practice | Surgery | Male | Saginaw, MI    |
| 12      | Physician 11                     | Private practice | Surgery | Male | Detroit, MI    |
| 13      | Physician 12                     | Employed model | Surgery | Male | Ann Arbor, MI  |
| 14      | Physician 13                     | Private practice | Surgery | Female | Saginaw, MI  |
| 15      | Physician 14                     | Private practice | Surgery | Male | Saginaw, MI    |
| 16      | Physician 15                     | Employed model | Surgery | Male | Saginaw, MI    |
| 17      | Physician 16                     | Private practice | Surgery | Male | Detroit, MI    |
| 18      | Physician 17                     | Private practice | Internal medicine | Female | Ann Arbor, MI  |
| 19      | Administrator 2                 | Hospital administrator | n/a | Male | Saginaw, MI    |
| 20      | Physician 18                     | Employed model | Surgery | Male | Saginaw, MI    |
| 21      | Physician 19                     | Employed model | Surgery | Female | Saginaw, MI   |
| 22      | Physician 20                     | Private practice | Surgery | Male | Columbus, OH   |
| 23      | Physician 21                     | Private practice | Surgery | Male | Saginaw, MI    |
| 24      | Physician 22                     | Employed model | Surgery | Female | Ann Arbor, MI  |