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Trends In Hospital/Physician Relationships
by Lawton R. Burns, Ronald M. Andersen, and Stephen M. Shortell

Abstract: Findings from two surveys of all physicians in Pima County, Arizona, in 1985 and 1990 to determine the trajectory of hospital/physician relationships suggest that conflicts have increased in almost all areas. Physicians report the greatest number of and increase in conflicts in traditional problem areas such as the quality of nursing and response to equipment requests. They report a smaller increase in conflicts relating to the new competitive marketplace, including hospital efforts to influence medical practice. Both types of problems are most prevalent among younger physicians. The new marketplace thus appears to exacerbate traditional hospital/physician conflicts more than it generates new areas of contention.

Hospital/physician relationships are being transformed in response to managed care contracting and health care reform. On the supply side, hospitals and physician groups are forming a variety of network arrangements to present a united front for contracting purposes. These networks include hospital/physician organizations, management service organizations, foundations, and integrated health organizations. On the demand side, legislatures in Washington and Florida have enacted managed competition plans, similar to President Clinton’s expected federal proposal, to establish health insurance purchasing cooperatives (HIPCs) to contract with these provider networks. Similar proposals are being drafted in other states.

These integrated provider networks offer hospitals and physicians a variety of advantages. For hospitals, such networks bolster the institution’s primary care base, improve its competitive position in both ambulatory and inpatient markets, and seek to align the interests of physicians with the hospital. For physicians, these networks provide hospital assistance in managed care contracting and practice management, relief from administrative hassles, and access to capital for expansion.

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The advent of managed competition thus provides incentives for hospitals and physicians to work in collaboration. This collaboration appears to be a major factor influencing hospitals’ financial success under the Medicare prospective payment system (PPS). Such collaboration may not be achieved easily, however, given the historical climate of distrust and suspicion between the two parties and the relationship of competitive interdependence fostered by the win/lose incentives of prospective payment.

Hospital/physician relations have received increasing research attention. Despite this interest, however, the impact of the new competitive marketplace on hospital/physician relationships remains largely an untested hypothesis. There is little consensus on whether or not these relationships are improving. The research findings reported here should focus providers’ attention on areas where future collaboration may be problematic.

Our analysis focuses on the individual physician, rather than the hospital, as the unit of analysis. We wished to avoid the approach adopted in other studies that relies on one or a small number of informants in the hospital, usually chosen from top administration or medical executive ranks. Consequently, we surveyed all physicians practicing in Pima County, Arizona, as listed by the Arizona Medical Association, including both medical staff officers and rank-and-file practitioners. We administered the questionnaires at two points in time (1985 and 1990) as part of a trend study to directly measure the trajectory of hospital/physician relations. The 1985 and 1990 questionnaires included many of the same items, thus permitting us to draw direct comparisons between them.

The 1985 and 1990 surveys asked physicians about the presence of conflict with their primary hospital (defined as the hospital where they treat the greatest number of their patients) in twelve specific areas. Six of these areas deal with traditional problems in hospital/physician relations, including administration’s view of physicians as “hospital labor,” physician involvement in hospital policy, clarity of hospital goals, purchase of requested equipment, the quality of nursing, and the quality of ancillary services. The other six areas deal with problems related to the new competitive environment: physician control over medical care decisions, pressure to discharge Medicare patients early, pressure to transfer indigent patients, pressure to not use certain tests or services, competition from hospital ambulatory care programs, and the hospital’s provision of community health programs.

In 1985 Pima County contained nearly 600,000 residents served by ten nonfederal hospitals: eight general (five nonprofit, two for-profit, one public) and two psychiatric. These hospitals ranged in size from thirty-four to 562 beds, supplied 3.6 beds per thousand population, and operated at an average occupancy rate of 68 percent. According to Arizona Medical Asso-
ciation statistics, the county also contained 1,367 physicians (235 physicians per 100,000 population) and four managed care plans, which controlled 23.6 percent of the market.

Between 1985 and 1990 the competitiveness of this market intensified along several dimensions. While the population increased by nearly 15 percent, the number of providers rose even more sharply. For example, the number of physicians grew 22 percent to 1,674, or 251 per 100,000 population. The number of managed care plans rose to five, accounting for 30.5 percent of the market. Finally, three new psychiatric facilities were constructed, helping to increase the number of hospital beds by 11.1 percent and to maintain the bed-to-population ratio despite a decline in inpatient utilization. Average hospital occupancy rates fell to 64.7 percent.

Because the survey data describe only the Pima County market, any inferences about the quality of hospital/physician relationships nationwide must be limited. However, this area offers several research advantages. First, because of the high level of managed care penetration, competitive pressures on providers to reduce costs and use may be more intense in Pima County than elsewhere. Hence, we might expect to observe more pronounced conflicts between physicians and hospitals over competition and the new health care marketplace. Second, Pima County contains a wide variety of hospital types, in terms of both ownership and system affiliation. Third, because hospital/physician relationships in this market have already been the focus of several prior investigations, this study has the potential to add further to our detailed understanding of the dynamics of these relationships. Finally, the finite size of the market permits us to track a subset of physicians over time in a panel design. Such designs are more powerful for drawing inferences about patterns of change.

Survey response. The 1985 survey was administered to all 1,367 county physicians. Of these, 737 (54 percent) responded. Physicians who had retired from medical and/or hospital practice were then excluded, yielding a final sample of 616 respondents. The 1990 survey was administered to 1,674 county physicians, of whom 677 (40 percent) responded. Eliminating retirees and nonactive physicians left a sample of 422 respondents. Eighty four active physicians responded to both surveys, thus constituting the subsample for the panel analyses.

The modest survey response rates are comparable to those obtained in other recent community surveys of physicians, such as the Harvard Medical Practice Study. Also, there was no significant response bias in either survey based on the physician’s age or sex. While sizable numbers of physicians in all major specialties responded, we did observe significant differences in response rates among certain specialties. In each survey, surgeons, obstetrician/gynecologists, and pediatricians were most likely to respond (45-50
percent response rate in the 1990 survey); internists and general/family practitioners were next most likely to respond (35-40 percent); radiologists, anesthesiologists, and pathologists (RAPs), psychiatrists, and other specialists were least likely to respond (30-35 percent).

Results Of The Survey

The survey data reveal several interesting trends in hospital/physician conflict (Exhibit 1). First, similar to the findings in Stephen Shortell’s ten-hospital study, traditional problem areas represent a greater source of conflict than competitive problem areas in both surveys. They also appear to be growing relatively more troublesome. These findings suggest that the new environment of competition and cost containment has exacerbated traditional frictions between physicians and hospitals, rather than generating new ones. Second, the two areas exhibiting the greatest increase in conflict are traditional issues concerning the quality of care. These tradi-

Exhibit 1
Proportion Of Physicians Reporting Conflicts With Their Primary Hospital, Pima County, Arizona, Trend Analyses Of 1985 And 1990 Data

<table>
<thead>
<tr>
<th>Area of hospital-physician conflict</th>
<th>1985 survey (N = 616)</th>
<th>1990 survey (N = 422)</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional areas (average)</td>
<td>19%</td>
<td>28%</td>
<td>-</td>
</tr>
<tr>
<td>Administration views physicians as “hospital labor”</td>
<td>17</td>
<td>20</td>
<td>+3%</td>
</tr>
<tr>
<td>Physicians have limited input in developing hospital policy</td>
<td>32</td>
<td>31</td>
<td>-1</td>
</tr>
<tr>
<td>Hospital goals are unclear/inconsistent</td>
<td>24</td>
<td>30</td>
<td>+6(^a)</td>
</tr>
<tr>
<td>Administration fails to purchase the equipment requested by physicians</td>
<td>15</td>
<td>22</td>
<td>+7(^b)</td>
</tr>
<tr>
<td>Nursing staff are of uneven quality</td>
<td>17</td>
<td>41</td>
<td>+24(^b)</td>
</tr>
<tr>
<td>Ancillary services are of uneven quality</td>
<td>11</td>
<td>24</td>
<td>+13(^b)</td>
</tr>
<tr>
<td>Competitive environment areas (average)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physicians lack control over medical care decisions</td>
<td>13</td>
<td>24</td>
<td>+11(^b)</td>
</tr>
<tr>
<td>Physicians are pressured to discharge or transfer Medicare patients early</td>
<td>20</td>
<td>24</td>
<td>+4</td>
</tr>
<tr>
<td>Physicians are pressured to transfer indigent patients to other hospitals</td>
<td>7</td>
<td>14</td>
<td>+7(^b)</td>
</tr>
<tr>
<td>Physicians are pressured not to use certain ancillary tests/services</td>
<td>5</td>
<td>9</td>
<td>+4(^b)</td>
</tr>
<tr>
<td>Hospital ambulatory care programs compete with physicians</td>
<td>12</td>
<td>15</td>
<td>+3</td>
</tr>
<tr>
<td>Hospital provision of community health programs is inadequate</td>
<td>6</td>
<td>10</td>
<td>+4(^a)</td>
</tr>
</tbody>
</table>


\(^a\) Difference in 1985 and 1990 proportions significant at p < .05
\(^b\) Difference in 1985 and 1990 proportions significant at p < .01
tional problems of quality are most likely exacerbated by cost containment strategies pursued by hospitals (such as downsizing), the shortage of nurses, and the observed difficulties physicians report in obtaining requested equipment. The nursing quality problem also has been noted in other recent studies of hospital/physician conflict. Cost containment pressures are further indicated by the significant rise in conflict in competitive areas. The increased conflict over physician control of medical decisions suggests the presence of external review forces (utilization review, managed care, and peer review organizations), as other surveys of physicians have found. Hospital policies to control costs also may explain the increased conflict over the transfer of indigent patients and pressures to curtail use of ancillary services. On the other hand, there is no indication that such policies have led to a significant rise in conflict over the discharge of Medicare patients and hospital ambulatory care programs.

Third, the results show no significant decline in conflict over physician input in developing hospital policy, despite recent hospital efforts to include more physicians in governance and managerial roles. Indeed, the proportion of Pima County physicians serving in such roles rose from 16.5 percent to 26.0 percent between 1985 and 1990. The near absence of decline in conflict supports earlier findings that decision-making participation has had little effect on lowering conflicts in this area. Finally, similar to findings in earlier studies, the level of conflict in any given area is still less than we might have anticipated. The majority of physicians in both surveys did not report conflict with their primary hospital in any of the twelve areas. On the other hand, a growing majority of physicians reported experiencing at least one conflict both in traditional areas (53 percent in 1985 versus 68.2 percent in 1990) and in competitive areas (40.9 percent in 1985 versus 53.1 percent in 1990).

Panel analyses. Our trend analyses paint a picture of growing hospital/physician conflict in this market. This picture is subject to qualification. The trend analyses we performed provide an accurate picture to the extent that the survey sample at each point in time is representative of the population studied. We have already noted that the samples are representative in terms of the physicians’ background characteristics but not in terms of their specialty training.

To bolster the conclusions drawn from the trend analyses, we conducted a panel analysis of those physicians who responded to both surveys (N = 84). While some of the individual percentages varied, the aggregate results were identical to those presented in Exhibit 1. Reported conflicts in traditional areas increased from 19 percent to 28 percent of physicians, while conflicts in competitive areas rose only from 11 percent to 16 percent. Moreover, the greatest increases in reported conflicts again occurred
over such issues as nursing, ancillary services, and equipment requests.

**Physician characteristics associated with conflict.** We also examined
the survey results in terms of the types of physicians experiencing the
greatest conflict. We were particularly interested in (1) primary care physi-
cians, who will form the hub of local integrated networks; (2) physicians
practicing in group/prepaid settings, which contract with hospitals to form
these networks; and (3) salaried physicians, who may be increasingly em-
ployed in integrated health organizations. We also were interested in the
growing ranks of younger and female physicians, who may be most recep-
tive to joining these arrangements. While we ideally would use the panel
data to investigate factors associated with the greatest changes in conflict,
we were constrained by the relatively small number of physicians respond-
ing to both surveys. We thus chose to conduct these analyses cross-section-
ally using 1990 survey data. Following our earlier study, we cross-classified
the presence of conflict with the physician’s age; sex; specialty; practice
setting; compensation arrangements; and involvement in hospital govern-
ance/management (member of board or executive committee)

Several consistent patterns emerge across the two areas of conflict (Ex-
hibit 2). First, conflict is more prevalent among younger physicians. Con-
flict also appears more likely among female physicians and physicians
involved in hospital governance/management, although these results are
only marginally significant. Physicians practicing in group/prepaid settings
are somewhat less likely to report conflicts in competitive areas than are
solo and hospital-based practitioners. The contrary effects of age and pre-
paid practice setting on conflict are puzzling, given the increasing tendency
for younger physicians to enter prepaid settings. To disentangle these
effects, we cross-classified the two age categories with the three practice-
setting categories and examined the level of conflict within each group
using analysis of variance techniques. Results indicated a strong and signifi-
cant (p < .01) effect of age, a weaker and marginally significant (p < .15)
effect of practice setting, and no significant interaction effect. Overall,
younger physicians in each practice setting reported greater conflict in both
traditional and competitive areas. Younger physicians in group and prepaid
settings reported less conflict than younger physicians in other settings,
particularly in competitive areas; however, the differences do not approach
statistical significance.

Other findings reported in Exhibit 2 differ by the area of conflict. Hospital-based specialists were significantly more likely to report conflicts
with their hospital in traditional areas, yet (along with salaried physicians)
were significantly less likely to report conflict in competitive areas. Primary
care physicians reported relatively lower levels of conflict over traditional
areas compared with hospital-based specialists but higher levels than were
## Exhibit 2
Percentage Of Physicians Reporting Conflicts With Their Primary Hospital, By Physician Characteristics, Pima County, Arizona, 1990

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Average percent across area of conflict</th>
<th>Percent reporting one or more conflicts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional</td>
<td>Competitive</td>
</tr>
<tr>
<td>Age 25-44</td>
<td>30.9%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Age 45 and older</td>
<td>24.3%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Significance</td>
<td>p &lt; .02</td>
<td>p &lt; .03</td>
</tr>
<tr>
<td>Male</td>
<td>27.3%</td>
<td>15.8%</td>
</tr>
<tr>
<td>Female</td>
<td>30.6%</td>
<td>17.1%</td>
</tr>
<tr>
<td>Significance</td>
<td>p &lt; .44</td>
<td>p &lt; .71</td>
</tr>
<tr>
<td>Specialty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgery</td>
<td>24.9%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Internal medicine</td>
<td>26.2%</td>
<td>16.2%</td>
</tr>
<tr>
<td>Obstetrics/gynecology</td>
<td>25.3%</td>
<td>08.6%</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>26.5%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>24.4%</td>
<td>21.1%</td>
</tr>
<tr>
<td>General/family practice/general internal medicine</td>
<td>27.6%</td>
<td>22.4%</td>
</tr>
<tr>
<td>Radiology/anesthesiology/pathology/emergency medicine</td>
<td>38.5%</td>
<td>12.4%</td>
</tr>
<tr>
<td>Other specialty</td>
<td>30.0%</td>
<td>08.3%</td>
</tr>
<tr>
<td>Significance</td>
<td>p &lt; .12</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Practice setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solo practice</td>
<td>24.4%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Group/prepaid</td>
<td>25.5%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Hospital-based</td>
<td>33.3%</td>
<td>16.4%</td>
</tr>
<tr>
<td>Significance</td>
<td>p &lt; .02</td>
<td>p &lt; .15</td>
</tr>
<tr>
<td>Compensation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fee for service</td>
<td>27.3%</td>
<td>17.7%</td>
</tr>
<tr>
<td>Departmental revenue/capitated</td>
<td>26.6%</td>
<td>14.7%</td>
</tr>
<tr>
<td>Salary</td>
<td>28.2%</td>
<td>13.9%</td>
</tr>
<tr>
<td>Significance</td>
<td>p &lt; .92</td>
<td>p &lt; .19</td>
</tr>
<tr>
<td>Governance/management involvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>26.7%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Yes</td>
<td>30.8%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Significance</td>
<td>p &lt; .21</td>
<td>p &lt; .46</td>
</tr>
</tbody>
</table>


reported by surgeons, internal medicine subspecialists, and obstetricians. However, primary care physicians were significantly more likely to report conflicts with their primary hospital over competitive areas than were specialists. Congruent with these findings, physicians practicing in solo, fee-for-service settings were also more likely to report conflict in competitive areas, although these differences are only marginally significant.
Implications For Hospital Management

Our conclusions differ from those presented in earlier cross-sectional studies of hospital/physician relations. First, whereas previous studies have emphasized conflicts associated with greater competition, our survey results suggest that traditional conflicts over quality, staffing, equipment, and hospital goals are more pervasive. Second, whereas previous surveys using prospective or retrospective questions have posited favorable changes in hospital/physician relations, our longitudinal data (both trend and panel analyses) suggest a worsening in these relations. The traditional conflicts noted above appear to be growing more pervasive over time. Significantly, the only other survey using a longitudinal design also has found an increase in hospital/physician conflict.

Thus, while competition appears to have generated some new areas of conflict between physicians and hospital management, it appears to have exacerbated traditional hospital/physician conflicts even more. This may be due in part to hospitals’ efforts to downsize inpatient capacity and technology as they shift resources to outpatient and primary care initiatives. The findings suggest that both hospitals and physicians need to refocus on improving the basics of patient care. Some examples include efforts to restructure patient care (for example, patient-centered care models), to improve use of nursing personnel (for example, nurse restructuring projects), and to continuously improve the quality of patient care.

Executives also may wish to implement mechanisms of conflict resolution successfully applied in other hospitals. Physician/nurse liaison committees, for example, may improve coordination and communication between these two groups and facilitate joint problem solving. Physicians also may be induced to participate in in-service nursing education and joint physician/nurse rounds in an effort to reduce physicians’ perceptions of uneven nursing quality. Finally, new quality assurance approaches may enhance physician/administration communication and involve physicians in important hospital planning and improvement efforts. This may help to reduce perceptions that administrators view physicians as “hospital labor,” that physicians lack input in hospital policy, and that hospital goals are unclear. They also may serve to reduce conflicts organizationwide.

On the other hand, the findings suggest that three of the major strategies that hospitals have employed to increase hospital/physician bonding—governance/managersial involvement, salaried roles, and hospital-based positions—generally fail to reduce conflict in traditional areas between the two parties and may even heighten it. These results are consistent with evidence reported in earlier multivariate analyses of the 1985 survey data. They also are consistent with other, disquieting information about the
unanticipated effects of closer hospital/physician interaction. Jeffrey Alexander and Michael Morrisey report that closer interaction may increase rather than reduce hospital costs. Lawton Burns and Douglas Wholey find evidence that physicians who are more closely integrated with the hospital via these strategies arc no more loyal in their admitting preferences than are other physicians, and are no more likely to remain with the hospital. Hospitals should thus consider different approaches for tying physicians more closely to the hospital.

**Implications For Managed Competition**

Managed competition proposals currently under discussion involve contracts between purchasing cooperatives (demand side) and accountable health plans (supply side), including hospitals, physicians, insurance plans, and other providers. Hospitals and physicians will need to develop new relationships that enable them to assume risk for providing care to defined populations, as purchasers hold them jointly responsible for the costs and quality of care provided. These relationships will occur outside of the traditional medical staff organization.

These new practice arrangements and methods of compensation likely will have important impacts on hospital/physician relations. To the degree that these new models provide management and support services to physician groups, they may serve to lessen some of the traditional hospital/physician conflicts over ancillary services and equipment purchases observed here. To the degree that they provide practitioners with information on cost, quality, and patient outcomes, these new models also may reduce conflicts over competitive issues concerning professional autonomy and resource use. More traditional conflicts also may be mitigated by increasing use of contracts with primary care physicians and groups who will form the hub of the new provider networks. On the other hand, such conflicts may be exacerbated by the use of salaried arrangements with physicians.

To the degree that these models involve tighter coupling between hospitals and future cohorts of younger and primary care practitioners, they may engender greater conflict over competitive areas. These classes of physicians seem particularly sensitive to hospital pressures and incursions on their professional autonomy. This finding is remarkable, given these physicians’ tendency to join managed care settings. Our results suggest that age is a stronger and more consistent predictor of conflict than is practice setting, although the latter has some importance. The presence of conflict may vary according to the methods used to review and control use, the methods used to divide the capitation dollar between the two parties, and the quality of physician leadership within the newly emerging medical
groups. Future studies of hospital/physician conflict should investigate these specific attributes of the practice setting. Future research also should address how physicians relate to overall systems of care that extend beyond the individual hospital/physician relationship.

The authors thank two anonymous reviewers for their comments on an earlier draft. This paper was written while Lawton Burns was the Edwin Crosby Memorial Fellow at the Hospital Research Educational Trust.

NOTES


15. Detailed findings are available from Lawton Bums, College of Business and Public Administration, Department of Management and Policy, University of Arizona, McClelland Hall, Tucson, Arizona 85721.


24. These approaches are discussed in ProPAC, *An Evaluation of Winners and Losers*.

25. Baker and Cantor, “Physician Satisfaction under Managed Care.”