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Physician Compensation Method Does Not Affect Patient Treatment

Effects of physican compensation method on physician behavior and satisfaction in managed care organizations

SUMMARY

Starting in February 1995, investigators at the University of Washington School of Public Health and Community Medicine, Seattle, conducted the Physician Compensation Research Project.

The project examined how the different methods used by managed care organizations (MCOs) to compensate primary care physicians affected the utilization and cost of health care services, as well as physician productivity.

The project was part of the Robert Wood Johnson Foundation (RWJF) *Changes in Health Care Financing and Organization* (HCFO) national program (for more information see Program Results).

Key Findings

Phase 1

- Contrary to their expectations, the investigators found that the method of compensation for physicians—whether fee-for-service or salary—had a negligible impact on their treatment decisions for individual patients.
- Instead, the principal drivers of the use and cost of health care services were enrollee and physician characteristics.
- The use and cost of services were higher for female enrollees, older enrollees and enrollees with more benefits.
- Use and cost of services were lower for enrollees who were cared for by older physicians or by physicians working under a utilization management program.
- It must be noted that Washington State has a history of encouraging clinical efficiency even without financial incentives. Thus, it is not clear if the results of this study are generalizable since compensation mechanisms may be more likely to affect behavior in other locations.

Phases II and III

- Their research showed that physician compensation methods that are tied to productivity do increase individual productivity.
- In addition, they found that not-for-profit groups, multi-specialty groups, female physicians and physicians with fewer years of experience are less productive.
- The investigators note that the medical groups studied may not be representative of all medical groups in the United States.

Funding

RWJF provided three grants totaling $1,153,388 to support the research, which was carried out in three phases starting in February 1995 and running through September 2000.

THE PROBLEM

Throughout the 1990s, managed care organizations increased their market presence and changed the way physician practices and individual physicians were compensated. Their guiding principle was this: if physician practices shared some of the financial risk and rewards of caring for patients, they might exercise more restraint in their use of resources.

After decades of fee-for-service pay—which basically meant that the more services physicians provided, the more they were paid—physicians found themselves in a new world of capitated payments. Under capitation, physicians are paid a set amount every month to care for health plan members who have selected them as a primary care provider, regardless of how much care the patient receives.

However, managed care organizations implemented these changes without knowing how they effect health care utilization, costs or productivity. Moreover, existing studies on physician compensation and productivity were nearly two decades old. This study was intended to fill the resulting gaps.

Medical group practices, where so many physicians are choosing to practice and so many different compensation methods exist, offer an ideal environment in which to examine the effects of these methods. The changing managed care marketplace in the state of Washington, and the concomitant changes in physician compensation, offered the research team the opportunity to examine the effects of a range of approaches.

The investigators targeted primary care physicians for analysis because of the key role they play in managing and directing the overall care of their patient population.

THE PROJECT

Together, these three grants supported the three phases of the Physician Compensation Research Project, which examined the impact of compensation on the clinical efficiency (e.g., health services utilization and costs), satisfaction and productivity of physicians.

A National Advisory Committee provided guidance for the project work (see the Appendix for membership list). The research team subcontracted data collection, cleaning and editing to Healthcare Business Services International (HBSI), a Seattle-based firm that provides comparative clinical, financial and operational performance information to hospitals and health care systems.

In-kind contributions were provided by HBSI and the academic institutions with which the investigators were affiliated.

Phase 1 (ID# 026417): Compensation and Costs

In Phase 1, which ran from February 1, 1995 through March 31, 1997, the researchers looked specifically at how physician compensation affects health care service utilization, costs, and physician productivity. They analyzed 1994 enrollment and utilization data for more than 200,000 adults enrolled in four different managed care organizations. From 62 group practices (practices of three or more physicians) in western Washington State, the researchers obtained information on compensation arrangements for 865 physicians.

At the time of the study, all of the primary care physicians were paid a salary, fee-for-services, or a mixture of the two. The researchers also conducted 72 interviews with physicians and administrators in group practices and managed care organizations who provided detailed information on how health plans pay group practices, how individual physicians are compensated, and how these compensation mechanisms are likely to change.

They also conducted a mail survey to assess the effects of compensation methods on solo practitioners and physicians in two-person groups (achieving a response rate of 42%—99 out of 271 physicians).

Phase 1 Findings

- Contrary to expectations, the data analysis showed that the method of compensation had a negligible impact on treatment decisions for individual patients. Instead, enrollee and physician characteristics drove the use and cost of health care services, with higher levels for female enrollees, older enrollees and enrollees with more benefits. The use and cost of health care services were lower for enrollees who were cared for by older physicians or by physicians working under a utilization management program, which typically involves some combination of prior

authorization, retrospective reviews, and second opinions. *(Journal of the American Medical Association)*

- Physicians indicated in interviews that method of compensation is a key factor in their decisions about where to practice. Because their choices fit with their practice style and lifestyle, physicians are generally satisfied with their compensation method. (*American Journal of Managed Care,* 2001)
- Physicians and medical group administrators did not believe compensation methods affected individual clinical decisions, patient outcomes or satisfaction but they did believe physician productivity was affected. In their interviews, respondents indicated that fee-for-service compensation rewards physicians for their productivity and encourages them to work faster, work longer hours and see more patients. (American *Journal of Managed Care,* 2001)
- Many of those interviewed expected changes in compensation methods towards more incentive-based approaches in the near future.
- Solo practitioners and physicians in two-person groups were generally less satisfied with working in a managed care environment. Overall, these physicians reported having less time for patient care due to increased paperwork. Many indicated they had changed the way they managed patients and were doing more phone triage. (*American Journal of Managed Care,* 1998)

Phase 1 Results

- During a year-long sabbatical that occurred during Phase 1, the principal investigator interviewed clinical and operational managers and executives in seven medical groups and hospital systems to understand their risk-bearing arrangements. Risk-bearing arrangements place individual physicians or their group practices at financial risk for the level of health care services provided to patients. The investigator developed a series of case studies for teaching purposes and published the results in the *Quarterly Review of Economics and Finance* (see the Bibliography). In addition to RWJF funding, this effort was funded by the Agency for Healthcare Research and Quality and the University of Washington School of Public Health and Community Medicine.

Limitations of Phase 1

Washington State has a history of encouraging clinical efficiency even without financial incentives. Thus, it is not clear if the results of this study are generalizable since compensation mechanisms may be more likely to affect behavior in other locations.

Phase 2 (ID# 032494): Compensation and Physician Productivity

The objective of Phase 2, which extended from September 1997 to November 1999, was to help health care executives, researchers and payers better understand how financial

incentives affect physician productivity, and to identify practices that encourage productivity while discouraging overuse or underuse of health care services.

The investigators used data from surveys of practice costs and physician compensation conducted in 1995 and 1997 by the Medical Group Management Association, a membership organization of medical group practices and the physicians who practice within them. Approximately 600 group practices and 8,000 physicians responded to each survey.

The investigators considered factors other than compensation in their models, including: medical group practice size, form of group ownership, the presence of mechanisms to monitor physician productivity, the physician specialty mix of the group, and individual physician characteristics (e.g., age and gender).

The investigators also conducted interviews with physicians and key administrators in 46 medical groups in Washington, Oregon, California and Wisconsin to more closely examine physician behavior resulting from compensation and risk-bearing arrangements.

Phase 2 Findings

Among the findings reported to RWJF:

- Based on the survey data, the investigators concluded that compensation methods tied to productivity did increase individual physician productivity. However, they noted that the effect was less robust than it appeared to be in the 1970s.
- Certain characteristics of individual physicians and medical groups had an impact on physician productivity. For example, physicians with more years of experience were more productive while female physicians are less productive. Not-for-profit and multi-specialty groups were also less productive.
- The findings on the effect of medical group size on productivity were ambiguous. While the 1995 data suggested that individual physician productivity increased with the size of the medical group, the opposite was true in the 1997 data.
- Although investigators found some evidence that physician productivity was lower among groups with a higher proportion of at-risk revenues, investigators said the findings were "not robust."
- In an analysis of medical group characteristics based on 1995 data, the investigators found that not-for-profit medical groups and those located in higher income areas were more likely to adopt production-based compensation methods. Medical groups affiliated with hospitals or health plans were less likely to do so. Medical groups in areas with a higher physician-to-population ratio were more likely to establish affiliations with other physician practices, while multi-specialty groups and groups

located in areas with a higher number of hospital beds per capita were less likely to do so.

- The majority of physicians interviewed reported that:
  - Current compensation method had no effect on most of their daily activities, including home consultations, referrals to specialists, average time spent with patients, technical quality of patient care, attention to patient satisfaction, volume of diagnostic services ordered and quantity of documentation.
  - Individual capitation systems "somewhat commonly" lead them to underutilize ancillary services or otherwise inappropriately deny diagnostic and treatment services to capitated patients.
  - Production-based compensation methods "not uncommonly" prompt them to refer to other physicians complex patients that they could adequately treat themselves.

Phase 3 (ID# 038154): Productivity Trends Over Time

In Phase 3, which extended from February 2000 to September 2000, the investigators added another year of data to their analysis, drawing on the 1998 survey of practice costs and physician compensation conducted by the Medical Group Management Association. The survey included 383 medical groups and 6,129 physicians, although methodological factors limited the extent to which complete data could be collected from all respondents. The researchers also added another dimension to their work on compensation and physician productivity: how changes in local health care markets affected risk-bearing by medical groups, group productivity and physician compensation mechanisms.

Phase 3 Findings

Among the findings reported in the peer-reviewed journal *Health Services Research:*

- Physicians in medical groups were more productive when a higher share of their compensation was based on their own production. "Equal shares" arrangements, which pay physicians in the group an equal share of the practice's net income, also had a positive effect on productivity, but it was substantially smaller.
- The effect of group size and structure on physician productivity was inconsistent, differing by the measurements used to assess output and by physician specialty. For example, by one measure physicians in groups with both primary care physicians and other specialists were somewhat less productive than physicians in single-specialty groups; by a different measure, productivity was substantially higher for the former group.
- Certain ownership forms influence physician productivity. Physicians practicing in not-for-profit group or hospital-owned groups were less productive, on average, while physicians in medical groups that own a hospital were more productive.

- Among significant physician characteristics that influenced productivity, female physicians were less productive while physicians with more experience were more productive.

In a report to RWJF, the investigators noted the following findings from their analysis of market effects on productivity and risk-bearing arrangements, based on 1997 data:

- When HMO enrollment increased in a geographic area, the share of individual physician compensation based on the physician's own production was reduced.
- None of the market area variables were significantly related to the group's share of at-risk managed care revenue except the area unemployment rate. The investigators were unable to explain the impact of unemployment.

Phase 2 and 3 Study Limitations

The medical groups that choose to join the Medical Group Management Association may not be representative of all medical groups in the United States. The investigators recommend replicating this study using data drawn from the wider universe of medical groups.

Communications

Researchers published several articles in peer-reviewed journals, including the *Journal of the American Medical Association,* the *American Journal of Managed Care,* and *Health Services Research* (see the Bibliography). As part of the project, the investigators developed a website. The site features many project documents, including survey and interview forms, an extensive Bibliography with original abstracts, and links to other sites. The study findings were presented to the Annual Congress of the American College of Health Care Executives; at a seminar series hosted jointly by the college and the Medical Group Management Association; and at invitational conferences held in western Washington State.

LESSONS LEARNED

1. **The timeline for a project using data from managed care organizations should reflect the considerable amount of time it takes to obtain and standardize data.** To expedite data collection and formalize the mutual commitment, the investigators recommend developing subcontracts with each participating managed care organization. (Principal Investigator/Conrad)
2. **Data that was not collected by the investigators themselves should be examined to ensure that it can be used as desired.** The original research design of Phase 3 had to be altered when investigators discovered that survey respondents differed from year to year. (Project Manager/ Marcus-Smith)

3. **Survey response rates can be increased by identifying the appropriate respondents, following-up repeatedly, offering incentives and developing relationships with the medical groups to be surveyed.** Investigators developed a data collection protocol that used multiple points of telephone and mail contact between the project team and the medical groups; a six-month timeline for the survey process allowed for repeated and multi-faceted follow-up. (Project Manager/ Marcus-Smith)

4. **Many physicians are more willing to share preliminary information than are their office staff.** Although it is reasonable to request basic information from office staff (e.g., about size and structure of the group), the investigators found that some staff in small medical groups would not even reveal their own last names to the interviewers. (Project Manager/Marcus-Smith)

5. **Researchers should not assume the internal record-keeping and information systems used by medical groups will be sufficient to allow easy access to detailed information on revenue sources, utilization management and physician hours.** Even the larger medical groups, with presumably more sophisticated information systems, found this difficult. (Project Manager/ Marcus-Smith)

6. **Developing a short form of a survey as well as a long form can increase the response rate.** The investigators developed both a 12-page and a one-page survey; the shorter version collected the minimum amount of data needed for the study. Five of the 81 respondents were unwilling to complete the full survey but willing to complete the briefer version either by mail or by telephone. (Project Manager/Marcus-Smith)

AFTERWARD

In October 2002, with $50,000 from RWJF (ID# 043856) and additional funding from the federal Agency for Healthcare Research and Quality and the California Healthcare Foundation, the investigators convened an invitational conference, "The Conference on Enhancing Health Care Efficiency and Clinical Effectiveness." See Program Results for additional information.

Policymakers, researchers and representatives of research funding organizations gathered to discuss the financial and management arrangements in managed care organizations, particularly those related to physician financial incentives, clinical guidelines and utilization management). Participants noted that regional and state-based studies were producing conflicting results about the impact of physician compensation on costs and utilization.

In January 2003, the research team received a 15-month, $165,000 grant from the Health Research and Educational Trust's Center for Health Management Research to study the effect of physician compensation on health care quality. The investigators interviewed

healthcare administrators and medical directors in order to discover common viewpoints regarding pay-for-quality programs, in which providers are given financial incentives for administering higher-quality care.

In an August 2006 article in the *Journal on Quality and Patient Safety*, researchers discussed the findings. Among them:

- Providers and administrators both noted that the greatest barrier to adopting a quality incentive program was the difficulty inherent in creating a quality measurement system that was accurate, clinically meaningful and consistent and neither ambiguous nor formulaic.
- Many administrators expressed concern that the financial reward given for higher quality would be insufficient to cover the costs of the improvements.
- Many providers considered peer recognition and financial rewards to be equally motivating.

In October 2007, with $328,829 from RWJF (ID# 063214), the project team began a study to assess the effects of quality-based financial incentives on physicians' clinical quality, patient satisfaction and efficiency. Research is expected to be completed by March 2009.

Prepared by: Karin Gillespie
Reviewed by: Karyn Feiden and Molly McKaughan
Program Officer: David Colby
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APPENDIX

Physician Compensation Research Project National Advisory Committee

(Current as of the end date of the program; provided by the program's management; not verified by RWJF.)

Terry Rogers, MD
Sr. Vice President
Regence Blue Shield
Seattle, Wash.

Cheryl Scott, MHA
President/CEO
Group Health Cooperative
Seattle, Wash.

Mary McWilliams
President
PacifiCare of Washington
Seattle, Wash.

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