

# The Medicare DRGs: Efficiency and Organizational Rationality

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*In fiscal year 1984, the United States' Medicare program began reimbursing inpatient hospital services under a system known as the Prospective Payment System (PPS). This system is a per-case reimbursement scheme in which cases are divided into relatively homogeneous categories called diagnosis-related groups (DRGs), and each DRG is paid a unique price set in advance of treatment. The great promise of PPS was that it would merge, into a framework of unified organizational rationality, physicians' orientations toward individual patients and administrators' and regulators' orientation toward the common good. Processes of hospital care would thus be made efficient in that judgments regarding diagnosis and treatment would embody both the particularistic interests of patients and the social interest in the use of resources. In this Article, the author claims that this normatively attractive framework is conceptually and empirically flawed because it ignores the complex interactions that occur within hospitals and the distinctiveness of each organization. Because the framework is therefore not operating as conceived, there appears to be no linkage between the goal of efficiency and the use of the DRGs as a per-case payment system. The author concludes that PPS should be abandoned in favor of a system in which hospitals would be paid under locally administered prospective budgets.*

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## Introduction: Efficiency Through Organizational Rationality

In 1984, Medicare began implementing its prospective payment system (PPS) for the reimbursement of inpatient hospital services provided to Medicare beneficiaries. This system incorporated two radically new features. First, hospitals were to be paid on a prospective rather than a retrospective basis. Prior to PPS, Medicare had reimbursed hospitals for defined allowable costs expended in a prior accounting period for the care of Medicare patients. In essence this system simply had allowed hospitals to “pass through” their costs to the Medicare fisc. PPS eliminated this open-checkbook system by putting hospitals on a budget set in advance. Second, PPS is a system whereby hospitals are paid on a per-case basis, with cases organized around classifications called diagnosis-related groups (DRGs). Previously, each hospital’s reimbursement was calculated as the sum of costs provided to its Medicare patients taken as a whole. PPS launched an effort to assign those costs to individual patients.

PPS thus offered two promises. First, because the DRGs supposedly represent the distinct product lines of a multiproduct firm, their use in accounting and reimbursement would allow hospital costs to be assigned to particular products. Clinicians, hospital administrators, and regulators could thereby make appropriate comparisons within and among different hospitals in order to improve, first, the efficiency by which hospitals produce laundry, meals, laboratory tests and the like, and, second, the effectiveness of the practice patterns by which clinicians organize these inputs into clinical care. The second major promise of PPS followed from this enhanced efficiency and effectiveness. It was widely believed that the production processes in hospitals were inefficient and ineffective, and that there was a synergistic relationship among those problems, the extant reimbursement system, and the ever-increasing hospital cost inflation. By forcing hospitals to operate more efficiently, and by forcing physicians to organize goods and services more effectively, PPS was to set in motion a process by which Medicare’s budget could be capped and controlled. The two promises, however, were linked. Budgetary control was not to be sought as an end unto itself but as an embodiment of the underlying newly found efficiency and effectiveness within hospitals.

This Article focuses directly on the use of the DRGs to attain this goal of efficiency. Rather than ask whether “PPS is working”<sup>1</sup>—whether the system *qua* prospective payment is working—it asks whether the *DRGs* are working—whether a system built around per-case units of payment is working. It

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1. See, e.g., LOUISE B. RUSSELL, MEDICARE’S NEW HOSPITAL PAYMENT SYSTEM: IS IT WORKING? (1989).

thus assesses whether there is a relationship between DRG-based per-case payment and efficiency. My answer is that there appears to be none. In the normative framework used in the development of the DRGs, the concept of efficiency is the familiar one of a process by which a distinct product's benefits are equated with its costs. In this framework, the benefits are to reflect an individual's interests, and the costs to embody the social concern regarding use of resources. The crucial mediating link between these two potentially conflicting sides was to be the language of the DRGs, reflexively flowing up and down a chain comprised of the rates paid by regulators, the management decisions made by hospital administrators, and the judgments rendered by clinicians. Through this linkage, the individual patient's interests in the quality of care and the social interest in the use of resources were to be conjoined in a single evaluative process. The language of the DRGs was to be the essential medium.

To be effective evaluatively, the language of the DRGs had to affect both the actions of regulators in setting the rates and the actions of hospital administrators and physicians in managing the hospital and patient care. There was, however, a more specific requirement. The actualization of the evaluative process depended upon merging, into a framework of unified organizational rationality, physicians' orientations toward individual patients and administrators' and regulators' orientation toward the common good. In the one direction, clinical judgments would be suffused with wider organizational and social resource implications; in the other direction, regulators and administrators would be forced to consider the particularistic consequences of their judgments. I argue that this normative framework is conceptually flawed because it ignores the complex interactions that occur within hospitals and the distinctiveness of each organization. It is therefore understandable that this framework is not operating as conceived. The link between the use of the DRGs as a per-case payment system and the goal of efficiency is illusory.

I do, however, conclude on a positive note as a prelude to my continuing work. The DRGs were constructed on an appealing normative framework in which there was an attempt to avoid the errors of utilitarianism through the implementation of a process mediating between universal and particular interests. We can build upon this conceptual apparatus. Each hospital would remain subject to prospective reimbursement, but the basic unit of payment would be the hospital, not the case. Regulatory authority to make distributional decisions would be transferred from a national administrative agency, which now acts in conjunction with congressional logrolling, to some form of local community institutional arrangements. Hospital budgets would then be set through institutions in which sovereign power would be conjoined with communal process.

This budgeting process, implemented at both a state and local level, would accomplish four basic tasks. First, it would allow regulators to focus attention

more directly on the distributional choices that affect hospitals and their communities. These decisions are now being made under PPS anyway, but they are being made at the greatest level of aggregation imaginable—through the payment of national average rates. This aggregation is foolish not only because behavior in hospitals occurs in local contexts but also because the primary information exchanged between regulators and affected parties is generated in the context of PPS's national notice-and-comment regulatory system. In other words, aggregated rates attract aggregated information, all of which is at odds with the fact that hospitals are primarily locally driven organizations. Distributional decisions made through state and local budgeting would be focused more directly upon the consequences stemming from the exercise of sovereign power, and these decisions would be informed by a more meaningful exchange of information among regulators, hospitals, and communities.

Second, by abandoning the attempt to assign costs to individuals and their fragmented payers, this budgeting process would build upon and instill the value that a hospital serves a community of patients drawn from a community of citizens. Our health insurance system and our reimbursement systems are inseparable and interacting; fragmented insurance has spawned fragmented reimbursement. Because both insurance and reimbursement are institutions of social support, both inexorably involve averaging among individuals who coexist within communities. Per-case payment rests upon the delusion that we can somehow eliminate this averaging, and it is part of an overall national context in which we are destroying our health care commons. We can reverse this direction only if we abandon the extreme individualism that has generated and linked a fragmented insurance system to a fragmented reimbursement system in which costs are disaggregated all the way down to the level of the case.

Third, by abandoning per-case payment and by reimbursing the hospital as a whole, we can build upon and strengthen a sense of community within the hospital. A reimbursement system which relies upon per-case payment only reinforces the conjoint beliefs that professional responsibility is properly directed just to an individual case and that the only legitimate form of authority in the process of care resides in the individual professional. In short, per-case payment reinforces the ideology of individual professional autonomy. It is therefore ironic that this mode of reimbursement—sovereign micro-management of cases—was imposed precisely as a means to confront this autonomy. Our reimbursement systems must reflect the recognition that professional discretion is inevitable and that confrontation in an attempt to eliminate that discretion only generates frustration for all. Rather than just assert countervailing sovereign power against professional power in an endless game of move-counter-move, we must instead work to build organizations which can elicit work shaped by the normatively attractive features of professionalism—the commit-

ment towards others, towards the value of work, and towards collegial processes and organization—and which can simultaneously discourage the abuses—the rapacious seeking of wealth and professional hegemony in the domain of ideas. A reimbursement system structured around the hospital would encourage the belief that each professional works within an organization in which responsibility flows toward both individual patients and the organization's multiple professional communities. The performance of work would then be organized around the value that the individual professional is responsible both to her patients and to professional communities rather than the value that the individual professional is and must remain autonomous.

Fourth and perhaps most importantly, a process which both draws from and builds upon community values—a “normative localism”—could act to integrate hospitals into communities. These communities could then exercise influence in shaping the respective roles of the hospital and other types of health care organizations and those of the medical profession and other types of care givers. As such, normative localism could act as a brake on the continuing medicalization of everyday experience.

My discussion begins with a description of the evaluative framework used to develop the DRGs and adopted, at least in rhetorical form, for PPS. Following, I describe, first, the organismic form of organizational rationality upon which the actualization of this framework depends and, second, the predictions concerning the manner in which the hospital organism would respond to PPS. I then show that these predictions have been satisfied only to a limited extent. This evidence indicates that this organizational model is both conceptually and empirically flawed, and I elaborate this point by discussing the extent to which the evidence conforms more fully to much more complex and situationally rich organizational models. I conclude by indicating briefly the manner in which we might build upon the normatively attractive framework used to develop the DRGs.

## I. The Evaluative Framework: Merging the Clinical Management of the Individual Case with the Social Management of Organizations

### A. *Conceptualizing the Hospital as a Multiproduct Firm*

Hospitals impose unique problems for internal and external management. First, there is substantial difficulty in defining, measuring, and evaluating the “hospital products.” We can consider these products to be homogeneous if we conceive of the hospital's output as consisting of laundry, meals, different types of diagnostic tests and services, pharmaceuticals, and so on. However, according to the proponents of the DRGs, this conceptualization is meaningless. In their words, “because the real business of the hospital is to treat individual

patients, [laundry, meals, diagnostic tests and services, pharmaceuticals, and the like] are really only intermediate outputs. The specific set of these intermediate outputs provided to each patient is a 'product' of the hospital . . . ."<sup>2</sup> Thus, at the limit, we can consider the particular process of care provided each patient to constitute one product of a multiproduct firm, and we can consider the hospital's products to be as heterogeneous as its patients: "Since individual patients receive different amounts and types of services, the hospital may be viewed as a multiproduct firm with a product line that in theory is as extensive as the number of patients it serves."<sup>3</sup> Given both the individuality of each patient and the difficulty of measuring the outcome of care provided to each one, there are difficult problems in pricing (or rate regulating) and evaluating quality. As summarized by the developers of the DRGs, "unlike gallons of water or kilowatt hours of electricity, medical care is not delivered in standardized units of services, all uniform and measurable, the quality of which is easily assessable."<sup>4</sup>

The second managerial problem is the concomitant difficulty in defining the costs of each of the hospital's products. Much of the hospital's plant and labor is structured so that it can be used to care for patients with diverse needs. Some services, such as meals, are delivered in standardized form and are easily attributed to the care of particular patients. However, other plant and services, such as those pertaining to an operating room, are used in the treatment of many patients and are not necessarily delivered in standardized units.<sup>5</sup> There-

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2. Robert B. Fetter & Jean L. Freeman, *Diagnosis Related Groups: Product Line Management Within Hospitals*, 11 ACAD. MGMT. REV. 41, 42 (1986).

3. Robert B. Fetter et al., *Case Mix Definition by Diagnosis-Related Groups*, 18 MED. CARE 1, 1 (Supp. 1980); see, e.g., Robert L. Seidman & Richard G. Frank, *Hospital Responses to Incentives in Alternative Reimbursement Systems*, 14 J. BEHAVIORAL ECON. 155, 156 (1985) ("[T]reatment of each diagnosis is a distinct hospital product.").

4. Robert B. Fetter et al., *A System for Cost and Reimbursement Control in Hospitals*, 49 YALE J. BIOLOGY & MED. 123, 127 (1976). For a summary of the conceptual difficulties in defining "the hospital product," see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, TECHNICAL APPENDIXES TO THE REPORT AND RECOMMENDATIONS TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 74-78 (1985).

5. See, e.g., Keith E. Braganza, *Cost Finding*, in 1 HANDBOOK OF HEALTH CARE ACCOUNTING AND FINANCE 197, 197 (William O. Cleverly ed., 1982) [hereinafter 1 HANDBOOK OF HEALTH CARE ACCOUNTING AND FINANCE]. William A. Glaser has summarized the difficulty as follows:

Perhaps some simple and recurrent procedures in the hospital's industrial services can be costed plausibly; for example, the cost of each laboratory test, the cost of each X ray, and the cost of laundering can be estimated just as the costs of each output of a business firm are estimated. But many other procedures—such as a thoracic operation or a physiotherapy session—are not so standardized and vary in their resource use each time. The inputs throughout a hospital appear more heterogeneous than the inputs throughout an industrial factory, and clustering them to estimate the costs of an output is more difficult than cost assignment in a factory.

WILLIAM A. GLASER, *PAYING THE HOSPITAL: THE ORGANIZATION, DYNAMICS, AND EFFECTS OF DIFFERING FINANCIAL ARRANGEMENTS* 33 (1987).

fore, the problems of assigning plant and labor are particularly acute:

In any organization delivering multiple products (the hospital offers hundreds, if not thousands, of products), some costs cannot be attributed specifically to any single activity. Rather, they are costs that arise jointly with a cluster of activities. Administration, property taxes, and the like are obvious examples of fixed costs that contribute to many activities; these are commonly included in a hospital's "overhead rate." But the hospital contains many examples of more refined common costs. The floor nurse provides a prime example: her activities include patient care in the usual sense, administration, medical record-keeping, pharmaceutical services, assistance to physicians in medical procedures, and a whole host of other activities. How can one account for the nurse's time in a meaningful sense? Even if the nurse maintained an infinitely detailed record of her minute-by-minute activities, some activities would truly be "joint production" of two or more services. Talking to the patient while changing a bed, for example, may represent both housekeeping and clinical psychological care, and observing the patient's vital signs and general demeanor at the same time represents the practice of medical diagnosis. There is no meaningful way to separate such common costs into distinguishable categories of "marginal costs" of each activity.<sup>6</sup>

The problem, however, extends beyond this materialistic conception. Physician "labor" is the most important component in the care of patients, but this labor does not create a material output like the classic widget. Instead, the primary task of physicians is a cognitive and evaluative one, for it is the physicians who are responsible for organizing the goods and services furnished patients. To some extent, the manner in which physicians exercise this responsibility crystallizes into regularities—the so-called "practice patterns"—formulated around a particular hospital or a group of hospitals in a common community.<sup>7</sup> To some degree, however, there is also variance within a single organization because physicians within the hospital are not subject to centralized hierarchical control.<sup>8</sup> In either case, these practice patterns—perhaps

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6. Charles E. Phelps, *Cross-Subsidies and Charge-Shifting in American Hospitals*, in UNCOMPENSATED HOSPITAL CARE: RIGHTS AND RESPONSIBILITIES 108, 117 (Frank A. Sloan et al. eds., 1986).

7. The relatively early, classic discussion is ELIOT FREIDSON, *THE PROFESSION OF MEDICINE: A STUDY OF THE SOCIOLOGY OF APPLIED KNOWLEDGE* 91-95, 105-136, 188-201, 305-22 (1970). For more recent examples, see JOHN M. EISENBERG, *DOCTORS' DECISIONS AND THE COST OF MEDICAL CARE* 45-46 (1986); William S. Custer & Richard J. Willke, *Teaching Hospital Costs: The Effects of Medical Staff Characteristics*, 25 HEALTH SERVICES RES. 831 (1991).

8. For a recent discussion of the substantial variations that exist within a large, prestigious, urban teaching hospital, see Joe Feinglass et al., *The Financial Effect of Physician Practice Style on Hospital Resource Use*, 26 HEALTH SERVICES RES. 183 (1991).



better described as professional norms—generate “spillover effects” among patients. In fact, the key components in the care of any patient are professional practices, and these practices are generated communally, circumscribed either by hospital walls or even more broadly by a larger community.<sup>9</sup> It is thus difficult to define a “production process” and associated costs pertaining to any particular patient.<sup>10</sup>

If a hospital is reimbursed retrospectively or prospectively as a single unit for the care provided to all patients, the difficult questions of cost allocation are ameliorated. Under a system of retrospective reimbursement, a payer or group of payers would simply want to know what costs had been expended by the hospital, taken as a whole, in the prior accounting period. Under a system of prospective payment, the payer or group of payers would set a budget for the hospital as a whole for the upcoming accounting period. In either case, the hospital is paid as a unit, and the “hospital product” can be defined quite broadly, at least for purposes of payment.<sup>11</sup> However, such a definition is unacceptable in an environment composed of a multitude of payers, each acting for its own interests, and none acting jointly either voluntarily or through governmental compulsion. In this situation, each payer reimburses the hospital just for the care provided its patients, and it must therefore know the costs attributable to them alone. Hence there is a pressing practical reason to define the “hospital product” much more narrowly, even toward the limit at which the care provided to a single patient is defined as a separate product. Concomitantly, as one approaches this limit, the problems of cost allocation intensify. It is no longer meaningful to allocate costs to particular departments, such as radiology and pathology, or to generalized types of patient-care services, such as nursing or outpatient care. Instead, costs allocated to such accounting units

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9. The point has been expressed, though metaphysically, as follows: “In hospitals the core task is uncertain, and the technology for performing it is largely imbedded in people—that is, physicians and nurses deliver medical and nursing care primarily through the exercise of their professional judgment, although they are aided by machines that may redefine professionals’ roles.” Donde P. Ashmos & Reuben R. McDaniel, Jr., *Physician Participation in Hospital Strategic Decision Making: The Effect of Hospital Strategy and Decision Content*, 26 HEALTH SERVICES RES. 375, 380 (1991).

10. For a review of economists’ attempts to specify hospital cost functions and the determinants of hospital costs, see MICHAEL D. ROSKO & ROBERT W. BROYLES, *THE ECONOMICS OF HEALTH CARE* 211-52 (1988). See also T.G. Cowing et al., *Hospital Cost Analysis: A Survey and Evaluation of Recent Studies*, 4 ADVANCES HEALTH ECON. & HEALTH SERVICES RES. 257 (1983). For present purposes, I make no distinction between cost and production function models.

11. See, e.g., GLASER, *supra* note 5, at 44-45. Any reimbursement process requires an evaluation of the benefits provided to a pool of patients. Therefore, even when “budgeting” is used—when the hospital is paid as a unit under a prospective or retrospective budget—the payer has incentives to “peer behind” the budget’s bottom line. For example, the payer might evaluate distinct line-items. The particulars of these practices are outside the scope of this Article.

must be further differentiated and assigned to individual patients.<sup>12</sup> In the United States, we have such an environment.<sup>13</sup>

In theory, a system of workable competition would solve these problems, and cost would be allocated efficiently. The joint and common costs of a multiproduct firm would be allocated—indeed generated—by the separable demands for each of the products.<sup>14</sup> In the context of Medicare, however, the cost accounting problems cannot be solved by these “centrifugal and centripetal forces.”<sup>15</sup> Medicare is the dominant payer of America’s hospitals. Its decisions are obviously subject to constraint, because Medicare officials do not wish to price their beneficiaries—or perhaps themselves—out of business by driving providers away from Medicare.<sup>16</sup> Nonetheless, no one seriously contends that there is a market dictating the prices Medicare pays for hospital services. Medicare has substantial discretion.

Therefore, at least in this conception, the problem for Medicare is that it must set its prices so as to mimic the results that would obtain in an open market.<sup>17</sup> For example, in 1982 Julian Pettengill and James Vertrees, two researchers then at the Health Care Financing Administration (HCFA), wrote that “[i]t is generally recognized that traditional public and private financing

12. [E]ach hospital must be described in terms of the specific services rendered to each patient. This cannot be done simply by describing the operating centers such as laboratory, pharmacy, dietary, and the like no matter how precise are the terms in which costs for such centers are recorded. The hospital renders service to each patient by drawing on these service centers to produce the set of resources necessary for each episode of patient care.

Fetter et al., *supra* note 4, at 130; see, e.g., John D. Thompson et al., *Planning, Budgeting, and Controlling—One Look at the Future: Case-Mix Cost Accounting*, 14 HEALTH SERVICES RES. 111, 113 (1979).

13. In other work I have described more fully the linkage between Medicare’s per-case payment system and the fragmentation of our reimbursement environment. See David M. Frankford, *The Complexity of Medicare’s Hospital Reimbursement System: The Paradoxes of Averaging*, 78 IOWA L. REV. (forthcoming 1993). In less fragmented systems, per-case accounting is not used for per-case reimbursement. For example, in many European systems, a hospital is reimbursed under a global budget but the payer utilizes some form of per-case accounting to evaluate that budget, see e.g., Cam Donaldson & Jon Magnussen, *DRGs: The Road to Hospital Efficiency*, 21 HEALTH POL’Y 47 (1992), or to evaluate the quality of processes of care. See, e.g., Miriam M. Wiley, *Hospital Financing Reform and Case-Mix Measurement: An International Review*, HEALTH CARE FINANCING REV., Summer 1992, at 119. Below I discuss the extent to which per-case accounting might be a useful tool, not as part of a formula to set reimbursement, but as a means to generate information for internal or external management. See *infra* notes 175-83, 227-32, 240-48 and accompanying text.

14. See, e.g., Phelps, *supra* note 6, at 110. In this conception, the internal organization of the firm, as well as the objectives it pursues, are themselves driven by rational consumer choice. See Mark V. Pauly, *Nonprofit Firms in Medical Markets*, 77 AM. ECON. REV. PAPERS & PROC. 257, 259, 261-62 (1987).

15. The metaphor is borrowed from *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1, 62 (1910). It should be clear that for present purposes I am interested only in the context of Medicare, not the validity of the competitive model in other circumstances.

16. See generally Mark V. Pauly, *Market Power, Monopsony, and Health Insurance Markets*, 7 J. HEALTH ECON. 111 (1988); Mark V. Pauly, *Monopsony Power in Health Insurance: Thinking Straight While Standing on Your Head*, 6 J. HEALTH ECON. 73 (1987).

17. See, e.g., Seidman & Frank, *supra* note 3, at 165 & n.17 (optimal revenue mechanism embodied in rate-setting would ensure “that the non-profit constraint facing hospitals applies to each patient, and precludes cross-subsidization of patients and using non-patient sources of funds to earn either positive or negative net revenue for a given patient”) (emphasis in original).

mechanisms have contributed to the continuing problem of inflation in hospital costs. . . . [A]lternative reimbursement methods are intended to create strong incentives, much like those found in a competitive market, for efficient use of hospital resources."<sup>18</sup> Medicare is not a price-taker in a world of atomized buyers but a dominant firm which possesses sovereign power and operates alongside a substantial fringe, no member of which possesses similar might. It is therefore crucial that Medicare pay exactly the value obtained by its beneficiaries.<sup>19</sup> Stated in terms of the cost allocation problems described above, by the exercise of sovereign power, Medicare must put into play an accounting and reimbursement system such that hospitals are forced to operate efficiently when they provide care to Medicare patients, and such that Medicare would pay just those efficient costs. Because the care provided to each patient constitutes a separate product, at the optimum, Medicare's system would pay precisely the value conferred on each individual patient. Consequently, again at the optimum, the costs of the entire hospital would be disaggregated and assigned to individual patients. In the words of Robert B. Fetter and John D. Thompson, the principal developers of the DRGs, hospital accounting must perform the following fundamental task:

[T]he critical need is for a method by which hospitals can be characterized in terms of the services which they provide to patients and the resources consumed for each delivery incident. Since the basic problem underlying this task is to build a system which will produce performance and utilization measures comparable from one hospital to another and allow rate setting which is equitable for both consumers and providers, each hospital must be described in terms of the specific services rendered to each patient.<sup>20</sup>

The accounting would then lead to efficient pricing: "Under ideal circumstances, the expected [prices paid for] the DRGs should reflect the efficient marginal costs of producing an additional unit (case) in each DRG."<sup>21</sup>

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18. Julian Pettengill & James Vertrees, *Reliability and Validity in Hospital Case-Mix Measurement*, HEALTH CARE FINANCING REV., Dec. 1982, 101, at 101. The role of the Pettengill-Vertrees report in the adoption of the DRGs as a case-mix measure is discussed in DAVID G. SMITH, PAYING FOR MEDICARE: THE POLITICS OF REFORM 34-35 (1992). This report is also discussed more fully below. See *infra* notes 44-51 and accompanying text.

19. The designers of the DRGs at Yale University wrote that any hospital reimbursement system must act to further "social utility." See Fetter et al., *supra* note 4, at 126-27. They explained this concept as follows: "The rationale on which social utility is structured should be the needs of the patient. Patients' needs are conceived as being multiple, varying in complexity, and requiring different levels of service at different times. This service must be rendered effectively and efficiently." *Id.* at 127.

20. *Id.* at 130.

21. Pettengill & Vertrees, *supra* note 18, at 105. It might be objected that by altering their language, I have mischaracterized the significance of the Pettengill-Vertrees report. In the quoted passage, Pettengill and Vertrees were discussing the appropriate data to be used in the construction of a hospital case-mix

The designers of the DRGs thought that traditional accounting methods were woefully inadequate for attainment of these goals. Under these traditional methods, the hospital is divided into "revenue centers" and "cost centers."<sup>22</sup> In these methods, the revenue centers are simply expressions of the accounting units used to bill patients (e.g., the operating room, laboratory, pharmacy, and radiology). To the extent possible, the costs of the nonrevenue-producing centers are directly allocated to each other and to the revenue centers. Unassigned, indirect expenses are then allocated through the use of various rules-of-thumb, often called "statistics." For example, depreciation of buildings and fixtures are allocated by the square feet of the areas to which these costs are to be assigned; the costs of producing laundry are allocated by the pounds of laundry used by other cost and revenue centers; dietary costs by the number of meals served; housekeeping by hours of service; pharmacy by costed requisitions; and intern-resident service by assigned time. To the extent that the indirect cost to be allocated from one cost center depends upon allocations from other cost centers, either a step-down procedure is used, whereby costs are allocated from the most general cost centers first (e.g., general administrative expenses) and the most specific ones last, or the interactions between the cost

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measure. Their actual statement was that "[u]nder ideal circumstances, the expected *cost weights* for the DRGs should reflect the efficient marginal costs of producing an additional unit (case) in each DRG." *Id.* (emphasis added). It could be claimed that the classification system was simply developed and used as a comparative tool—as a means to rank hospitals. This defense—that the DRGs are "just" a case-mix measure—is, however, incoherent. If the DRGs are only to measure, they must be based on extant costs. Yet, the entire purpose of the enterprise is to *evaluate* actual costs because those costs supposedly embody inefficiency. To provide a norm for efficiency, then, the DRGs must somehow be independent of extant costs. The underlying tension is a desire to account for existing variations among hospitals while simultaneously acting to eliminate those variations. *See generally* Frankford, *supra* note 13.

Pettengill and Vertrees seemed to have been aware of this problem. They indicated that a case-mix measure should incorporate the efficient costs that would obtain in a competitive market. *See id.* at 105-06 (discussing the options to develop a surrogate measure of the efficient relative cost of treatment in each DRG); *see also* Fetter et al., *supra* note 3, at 31-35. *See generally* PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 4, at 83-103; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, TECHNICAL APPENDIXES TO THE REPORT TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 52-55 (1988). They also indicated that any use of the DRGs as an evaluative tool simply assumes that this linkage exists: "[Our procedure] means that relative weights . . . reflect the average pattern of practice and the average quality of care in each DRG. More important, the relative structure of the average cost weights is assumed to reflect the structure of efficient costs among the same categories." Pettengill & Vertrees, *supra* note 18, at 106. In other words, they recognized the problem that is the entire subject of this Article—that one needs a means to link the DRGs to efficiency.

What Pettengill and Vertrees did not appear to recognize is that the problem stems from the belief system of social scientific positivism. The positivist claim is that behavioral models are used only to correspond with a reality—actual behavior—and that the models are devoid of normative content. However, social scientific models are developed and used to change the behavior "reflected." Thus, when this endeavor succeeds, the models also "reflect" the behavior of those who have developed the behavioral models. The endeavor, therefore, is normative. Medicare regulators were (and still are) using behavioral models to measure cost, but their normative interest collides with their positivism. They wish to displace clinical judgments concerning efficiency and effectiveness, but are forced to rely upon those judgments in setting efficient reimbursement. *See generally* Frankford, *supra* note 13.

22. This discussion of traditional cost finding is drawn from Braganza, *supra* note 5, and L. VANN SEAWELL, INTRODUCTION TO HOSPITAL ACCOUNTING 435-64 (rev. ed. 1977).

centers are captured through the use of simultaneous equations.<sup>23</sup> At the end of this process, all the costs of the hospital have been allocated to the units used for billing purposes.

If the hospital is conceptualized as the multiproduct firm described above, this process provides the means for neither internal nor external management by budgeting. Traditional cost-finding methods can tell managers whether laundry, laboratory tests and the like have been efficiently produced.<sup>24</sup> However, the information necessary to evaluate hospital performance concerns the processes of patient care by which these intermediate products are packaged into the final products. To generate this information, managers need a way to classify patients into meaningful groups so that costs can be assigned to the hospital's final products. In the words of Fetter's group,

The fundamental problem which must be solved, if effective resource and cost control is to be achieved within hospitals, is to define in a precise and manageable way the services provided by hospitals. It is not a useful observation simply to say that hospitals provide "patient care." What hospitals provide is patient care of various kinds and intensities over various durations based on the needs of the patients they treat. The total patients treated can be classified, based on selected clinical and demographic characteristics, into patient classes which consume the resources of the hospital in a similar manner. This would provide a categorization of the services provided by a hospital and establish a product definition. Such a definition of hospital services allows the resources utilized and the costs incurred to be related directly to the types of patients the hospital treats.<sup>25</sup>

Internally, this information can then be used to evaluate the efficiency and effectiveness of processes of patient care.<sup>26</sup> Externally, this information can provide a uniform and meaningful way by which to draw interhospital compari-

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23. For an example of the use of simultaneous equations, see Ian R. Chandler et al., *Cost Accounting and Budgeting*, in DRGS: THEIR DESIGN AND DEVELOPMENT 91, 116-17 (Robert B. Fetter et al. eds., 1991) [hereinafter DRGS: THEIR DESIGN AND DEVELOPMENT].

24. I am here ignoring the fact that a uniform system of accounts has been a rather late development in the hospital industry and that this problem long plagued administrative oversight. See generally John J. Dalton, *Uniform Reporting*, in 1 HANDBOOK OF HEALTH CARE ACCOUNTING AND FINANCE, *supra* note 5, at 49; Stephen M. Weiner, "Reasonable Cost" Reimbursement for Inpatient Hospital Services Under Medicare and Medicaid: The Emergence of Public Control, 3 AM. J.L. & MED. 1, 40-41, 45 (1977). All forms of cost reporting, whether based on DRGs or not, depend upon such a uniform system, and this problem is therefore separate from the conceptualization of the hospital product.

25. Thompson et al., *supra* note 12, at 112.

26. See generally Fetter & Freeman, *supra* note 2; Robert B. Fetter, *Background*, in DRGS: THEIR DESIGN AND DEVELOPMENT, *supra* note 23, at 3, 45.

sons.<sup>27</sup> In both cases, traditional cost-finding was inadequate for measuring productivity because it provided no means to classify patients and to link those groups to inputs and to decisions regarding the manner in which those inputs are used.<sup>28</sup>

B. *The DRGs: A Linguistic Medium to Link Clinicians with Administrators and Regulators*

1. *Development*

The DRGs were designed to fill this lacuna. They constitute a patient classification system in which the uniqueness of each patient is acknowledged, but it is likewise recognized that operationally, for purposes of budgeting, cost control, and peer review, meaningful groups of patients must be created and utilized.<sup>29</sup> Stated generally, the principal purpose behind the classification system is to provide an informational interface between the clinical decisions that organize the hospital's intermediate products into the final products provided each patient, and the resource implications of those decisions. Hence, there are two general criteria for the construction of the DRGs. First, in order to transmit information concerning the efficient use of resources from administrators and regulators to clinicians, the categories must be administratively manageable and they must embody information concerning the efficient use of resources. Second, the categories must be clinically meaningful so that they can transmit clinically relevant information from clinicians to hospital administrators and regulators, who are responsible for the ultimate level of resources committed to a hospital or group of hospitals. Stated in terms of lines of authority within and without "the hospital," the DRGs communicate information among, first, the line stemming from persons outside the hospital (regulators, trustees, and third-party payers), second, the chain flowing down the administrative side

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27. See Thompson et al., *supra* note 12, at 112-13; Fetter et al., *supra* note 3, at 23-29. Traditional reimbursement typically used a relatively inclusive *per diem* rate calculated by dividing a hospital's costs by the number of patient days. Costs among diverse patients were therefore aggregated and undifferentiated. See generally GLASER, *supra* note 5, at 15-16, 45-54. Fetter's group "suggest[ed] that diagnostic-specific (product-centered) case costs could be derived based on resource utilization and would be preferable both as a measure of hospital output and as a basis for reimbursement than the undifferentiated patient day." John D. Thompson et al., *Case Mix and Resource Use*, 12 INQUIRY 300, 309-10 (1975); see Fetter et al., *supra* note 3, at 1-2, 31-34. Analogously, Fetter's group argued that in the peer review process, comparisons among length-of-stay patterns for hospitals in a geographic area were not meaningful unless variances among the hospitals could be "attributed to differences in the types of patients they treat or to differences in their length of stay." Fetter et al., *supra* note 3, at 27. Hence, the DRGs could be "an effective mechanism in profile analysis by providing a structure of consistent patient-class definitions within which institutional performance can be compared based on similar types of patients." *Id.*

28. Thompson et al., *supra* note 27, at 311.

29. This paragraph is drawn from *id.* at 311-12; Fetter et al., *supra* note 4, at 126-27, 131-35; Thompson et al., *supra* note 12, at 1-2, 118-21, 123-24; Fetter et al., *supra* note 3, at 1-2, 5-6, 21-22, 34, 38; Fetter & Freeman, *supra* note 2, at 43-53; and Fetter, *supra* note 26, at 8-11, 14-22.

of the hospital's organizational chart (from the CEO down), and, third, the authority collected in the medical staff (organized as a whole and around different clinical specialties and subspecialties). The DRGs are thus to be an information medium that transparently transmits the normative judgments made in the furtherance of social interests, on the one hand, and individual interests, on the other.<sup>30</sup>

To achieve this purpose—to formulate the ultimate medium for transmitting evaluative judgments—the Yale DRG group utilized two steps.<sup>31</sup> First, the researchers asked physician panels to group all possible principal diagnoses into “23 mutually exclusive principal diagnosis areas, referred to as ‘major diagnostic categories’ (MDCs).”<sup>32</sup> The aim was to derive classifications coherent to clinicians. “In general, each MDC was constructed to correspond to a major

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30. Fetter and his collaborators understand the DRGs to be an information medium that transmits normative judgment. See Thompson et al., *supra* note 27, at 311-12; Fetter et al., *supra* note 4, at 126-27, 130-35; Fetter et al., *supra* note 3, at 21-22, 27-35, 38; Fetter & Freeman, *supra* note 2, at 45-53. *But see*, e.g., Richard F. Averill & Michael J. Kalison, *Structure of a DRG-Based Prospective Payment System, in DRGS: THEIR DESIGN AND DEVELOPMENT*, *supra* note 23, at 207, 233 (“The DRG inflation update factor should be computed on the basis of a predefined algorithm and be independent of political manipulations.”). I have previously argued that quite often this normativity gets lost in the aura of technique and the failure to recognize the evaluative component of judgments concerning “efficiency.” See generally Frankford, *supra* note 13. The difficulty is in strict reliance on statistical method without appreciating that data construction and manipulation are directed by normative interests. See MAX WEBER, “Objectivity” in *Social Science and Social Policy, in THE METHODOLOGY OF THE SOCIAL SCIENCES* 49, 72 (Edward A. Shils & Henry A. Finch trans. and eds., 1949). David G. Smith has artfully expressed this attitude:

Diderot, the French Encyclopedist and philosopher, is credited with the slogan, “Despotism and statistics cannot coexist.” This slogan rested on the kind of optimistic belief shared by many who helped design and implement PPS: that a fair and technically sound system of hospital payments could be designed, would win assent and be enacted into law, and could be administered without being destroyed by “politics.”

SMITH, *supra* note 18, at 71-72; *see id.* at 4, 11, 84, 86, 100, 106, 232-33, 246-47.

It should be quite obvious at this point that I have tremendous respect for the conceptual power of Fetter's normative framework. However, I have serious problems with the concept that we can construct a medium which will transmit normative judgments but not affect those judgments. See generally David M. Frankford, *Privatizing Health Care: Economic Magic To Cure Legal Medicine*, 66 S. CAL. L. REV. 1 (1992).

31. This paragraph is drawn from Fetter et al., *supra* note 3, at 5-20; and Richard F. Averill, *Development, in DRGS: THEIR DESIGN AND DEVELOPMENT*, *supra* note 23, at 28, 33-41. My discussion summarizes the basic design used initially in PPS. For later design developments, see Jean L. Freeman et al., *Refinement, in DRGS: THEIR DESIGN AND DEVELOPMENT*, *supra* note 23, at 57; Richard F. Averill et al., *A Study of the Relationship Between Severity of Illness and Hospital Cost in New Jersey Hospitals*, 27 HEALTH SERVICES RES. 587 (1992).

32. Averill, *supra* note 31, at 33 (reference to accompanying table omitted). In order to be operational, the DRGs were designed to draw on readily and generally available data. For this purpose, the researchers utilized the diagnostic codes provided by the International Classification of Diseases, Ninth Revision, Clinical Modification (the ICD-9-CM), which was first made available in 1979. This system is a “statistical classification of morbidity and mortality, used for indexing hospital medical records by disease, as well as data storage and retrieval processes.” PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 4, at 14-15. A patient's “principal diagnosis” is drawn from an abstract generated at the time of a patient's discharge from the hospital. This discharge abstract in turn utilizes the Uniform Hospital Discharge Data Set, a standardized code for reporting information regarding a patient's stay. The elements of the data set include: patient identification, date of birth, sex, race, residence, hospital identification number, admission date, discharge date, attending physician, operating physician, principal diagnosis, other diagnoses, principal procedure, other procedures, disposition (the reason why the patient left the hospital—release, transfer, death, discharge against medical advice) and expected payment source. See *id.* at 15.

organ system (for example, respiratory system, circulatory system, digestive system) rather than etiology (such as malignancies or infectious diseases). This approach was used since clinical care is generally organized in accordance with the organ system affected, and not etiology."<sup>33</sup> Second, "each MDC was evaluated to identify those additional patient characteristics that would have a consistent effect on the consumption of hospital resources."<sup>34</sup> For this evaluation, the Yale group utilized statistical methods to derive the tightest possible clusters of patients in which length of stay was correlated with the best explanatory characteristics, with appropriate adjustments to make the clusters and explanatory criteria clinically coherent and derivable from generally available patient data.<sup>35</sup> By and large, the MDCs were divided into medical and surgical groups, which were then differentiated according to the principal diagnosis or surgical procedure, respectively, and then further differentiated as necessary according to the criteria of age, sex, complication or comorbidity, specified secondary diagnoses or surgical procedures, and discharge status (see figure 1 on opposing page). Throughout, the "actual process of forming the DRGs was highly reiterative, involving a combination of statistical results from test data with clinical judgment."<sup>36</sup>

## 2. Conceptualized Impact

What would this linguistic medium do? At least as Fetter and collaborators conceived it, the use of the DRGs in a reimbursement system would spark changes in the language that both flows within the hospital and spans the boundary between the hospital and the external world. However, authority to

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33. Averill, *supra* note 31, at 34. Some examples of the MDCs are "Diseases and Disorders of the Nervous System"; "Diseases and Disorders of the Eye"; "Diseases and Disorders of the Ear, Nose, and Throat"; "Diseases and Disorders of the Respiratory System"; "Diseases and Disorders of the Circulatory System"; and "Diseases and Disorders of the Digestive System."

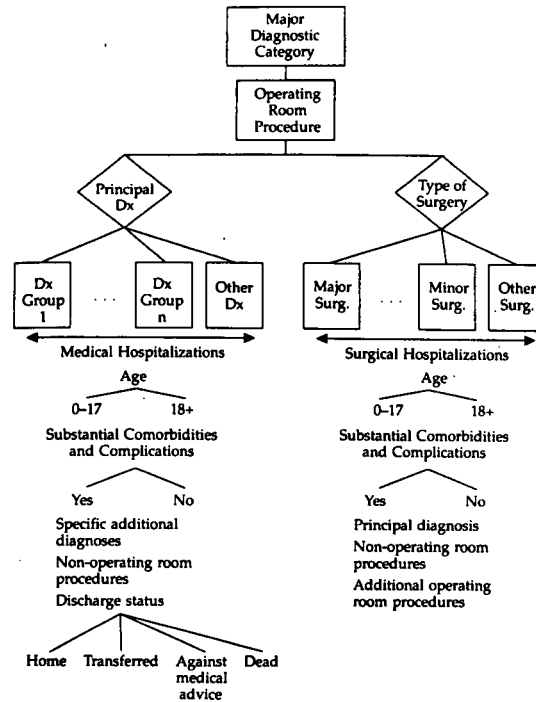
34. Averill, *supra* note 31, at 34.

35. See, e.g., PAUL L. GRIMALDI & JULIE A. MICHELETTI, PROSPECTIVE PAYMENT: THE DEFINITIVE GUIDE TO REIMBURSEMENT 22-43 (1985). Length of stay was utilized as the dependent variable, and hence as the measure of output. The designers explained, "While [length of stay] may not be as accurate an indicator of the level of output as actual costs, it is still an important indicator of utilization as well as being easily available, well standardized and reliable." Fetter et al., *supra* note 3, at 5. Length of stay had also been correlated with the total charges rendered a patient and with other measures of case-mix complexity. See *id.* at 6.

36. Averill, *supra* note 31, at 38.



**Figure 1. Structure of DRG Classification within Major Diagnostic Categories\***



\*Structure according to the fourth revision of the DRGs.

Source: Robert B. Fetter, Jean L. Freeman, and Harry L. Savitt, "DRG Refinement with Diagnostic Specific Comorbidities and Complications: A Synthesis of Current Approaches to Patient Classification," final report of cooperative agreements nos. 15-C-98930/1-01 and 17-C-98930/1-0251 between the Health Care Financing Administration (HCFA) and Yale University, January 1989.

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direct the use of resources would not necessarily change hands.<sup>37</sup> Fetter and his collaborators repeatedly implied that the irrationalities of management, cost control, and quality assessment stemmed from the lack of a common language through which the relevant actors—administrators, regulators, third-party payers, and clinicians—can communicate their evaluative positions. The following passage is illustrative:

[T]he need for effective communication is perhaps the most serious problem facing regulation of the health-care industry. To be effective, regulators and managers must build a language to the physicians. It is a reflection of the state of the art that appeals in the hospital industry are managed by lawyers and accountants and therefore examine problems of allocation and finance. If the financial and medical information were merged, it would become possible to trace the relationship between the physicians' decisions and their effects on costs. From this base, the proper questions can be framed to deal equitably with issues of effectiveness, quality and efficiency in patient care.<sup>38</sup>

The DRGs were the solution because they had been created to be a mode of communication that could translate between managerial and clinical discourse. This language would permit rational evaluation, for a "means of measuring performance allows for the development of a system to understand, to predict, and ultimately to control. *Managerial control* refers to understanding and mastering the process rather than restraining it."<sup>39</sup> The DRGs would make such an understanding possible—they would make the processes of work intelligible to both administrators and clinicians—because they "address[] simultaneously the administrative concerns of the department managers and the clinical concerns of the providers. This combination should allow for a constructive dialogue between management and clinician."<sup>40</sup> Once such intelligibility were obtained, the system would then provide a means to fit the needs of the individual patient, as defined within the clinical judgment of her individ-

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37. In this sense, Fetter's framework is extremely different from those that explicitly focus on changing the power matrix inside the hospital. See, e.g., Jeffrey E. Harris, *Regulation and Internal Control in Hospitals*, 55 BULL. N.Y. ACAD. MED. 88 (1979); DAVID W. YOUNG & RICHARD B. SALTMAN, *THE HOSPITAL POWER EQUILIBRIUM: PHYSICIAN BEHAVIOR AND COST CONTROL* (1985); Phelps, *supra* note 6, at 112-16. But see Sanford L. Weiner et al., *Economic Incentives and Organizational Realities: Managing Hospitals Under DRGs*, 65 MILBANK Q. 463, 465 (1987) ("Implicit in Fetter and Thompson's view was a restructuring of hospital management that would result in hospital administrators holding sufficient authority to influence directly the way physicians used resources. . . . DRG-based reimbursement, by providing the financial incentives to minimize costs, is the mechanism to force this realignment of internal authority."). I discuss the question of authority more fully below. See *infra* notes 57-59 and accompanying text.

38. Fetter et al., *supra* note 3, at 34.

39. Fetter, *supra* note 26, at 5 (emphasis in original).

40. *Id.* at 22.

ual physician, into the larger social and professional picture of responsibility.<sup>41</sup> At least in the developer's conception, use of the classification system would not enable social interests to dominate individual ones or vice versa. Rather, it would create a process whereby individual deviations from a social norm, as defined through the interaction of regulatory authority and collective professional activities, would have to be justified. The respective lines of authority, and the concomitant need for a dialogue to bridge the gap between them, would thus run from the profession, as a communal expression of clinical norms, to the individual professional; and from regulation, as a communal expression of social utility, to administrators within hospitals.<sup>42</sup> The dialogue between these two subsets of an overall system would thereby suffuse individual and social clinical judgments with individual and social economic rationality and vice versa. In the words of the designers,

The development of the patient classes is not intended to inhibit in any way the practice of medicine but to offer one the capability of examining reasons for variations in service utilization, treatment process, and outcome. In this context, the groups can provide a framework for the initiation of an ongoing process of comparative analysis of health care with the long-run goal of determining both the cost and value of any kind of care that might be delivered. With such information, meaningful dialogue among clinicians, administrators, planners and regulators can proceed in rationalizing of observed differences. Only in this way can strategy, policy and politics interact to the benefit of the communities served by each institution.<sup>43</sup>

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41. Fetter and collaborators provided the fullest explication of this mediation process in Fetter et al., *supra* note 4.

42. Pettengill and Vertrees described the linkage, embodied in the rates, between regulators and hospital administrators in the following way:

The objective of prospective payment systems is to create incentives for economically efficient use of resources. The cost values attached to the case type categories implicitly define incentives for the hospital and standards of comparison against which hospital performance will be judged.

The problem for the hospital administrator is to internalize these standards as a basis for control.

Pettengill & Vertrees, *supra* note 18, at 102. In turn, "[t]o control the use of resources within their institutions, hospital administrators [will] be able to communicate standards of behavior to the admitting physicians." *Id.* at 103. This process will eliminate incentives for overintensive use of resources. In turn, the possibility that administrators would encourage physicians to undertreat is counterbalanced in part because the physician is neither economically nor evaluatively dependent upon the hospital. Her "choice of treatment modality . . . is likely to be more strongly influenced by the relative risks to the patient and the economic incentives embedded in the physician fee structure than by any effects on hospital reimbursement." *Id.*

43. Fetter et al., *supra* note 3, at 22.

## II. Actualizing the Evaluative Framework: The Dependence upon an Organistic Form of Organizational Rationality

### A. *Embodying Efficiency: Uniform Rates Structured Around the DRGs*

To have this impact, however, the DRGs obviously had to become embodied in the process of hospital regulation. Originally—in the late 1960s and early 70s—the system was conceived, not as the basis of PPS or any other reimbursement system, but instead as a management tool that could be used to evaluate hospital performance.<sup>44</sup> Nonetheless, as early as 1975, Fetter's group understood that the "next logical extension" of their work was that "[t]hird-party reimbursement policies could . . . be directed toward the use of the diagnostic-specific case cost as the method of paying for hospital services, rather than patient days."<sup>45</sup> Furthermore, at least by the early 1980s, when the group was working closely with HCFA in refining the DRGs, it was quite clear that some at HCFA, including Pettengill and Vertrees, wanted the DRGs to be the basis of the case-mix measure in a new reimbursement system, although even then it seemed unlikely that HCFA was going to recommend that the basic unit of payment be per-case.<sup>46</sup> In any event, regardless of Fetter's intent, the evaluative framework was picked up by many in the Department of Health and Human Services (DHHS), HCFA, and Congress who were interested in controlling Medicare's budget.<sup>47</sup>

The most difficult task in setting rates for hospitals has been the search for measures to compare, evaluate, and control the costs of treating different patients in one hospital and, moreover, across different hospitals. Hospital regulators can confidently set uniform rates applicable to groups of hospitals only if they believe they can satisfactorily account for the factors that cause treatment costs to vary. Once their causal models are sufficient, regulators can then evaluate the causes of cost variation. They can separate "illegitimate" sources, which supposedly reflect inefficient production processes and ineffective clinical practices, from "legitimate" sources, which are caused by factors outside a hospital's control, such as severity of illness.

Prior to the development of the DRGs, pioneering work by Judith Lave, Lester Lave and Samuel Leinhardt had successfully correlated a substantial

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44. See Fetter, *supra* note 26, at 8.

45. Thompson et al., *supra* note 27, at 311-12; see Robert B. Fetter, *Diagnosis Related Groups: Understanding Hospital Performance*, INTERFACES, Jan.-Feb. 1991, at 6, 10.

46. See SMITH, *supra* note 18, at 28-45, 59.

47. Many observers, including some whose suggestions have strengthened this Article, believe that Congress and HCFA were not interested in Fetter's fancy evaluative framework; they only cared about holding down federal outlays. This statement is undoubtedly true of many members, staff, and administrators, but it is not true, for a prominent example, of Pettengill and Vertrees. See *supra* note 42 and *infra* note 59. My method is to take seriously the evaluative premises of persons like Fetter, Thompson, Pettengill and Vertrees, and to analyze whether those premises can be satisfied.

portion of cost variation with various hospital characteristics, such as teaching status, and with patient categories constructed around diagnoses and surgical procedures.<sup>48</sup> However, it was generally believed that the method for classifying patients was insufficient. It was thus in this regard that the DRG classification system—a classification system that supposedly groups all patients in all hospitals into homogeneous categories—was a major breakthrough, a “fact” demonstrated by the important Pettengill-Vertrees report. In this study Pettengill and Vertrees combined diagnosis, categorized by DRG, with several hospital characteristics into a causal model that would “explain” the variations observed in the treatment of all Medicare patients. They reported that this model could account for far more cost variation than had ever been achieved before.<sup>49</sup>

It was at this point that hospital regulators became confident that they could utilize some form of uniform rates structured around the DRGs. Moreover, given the evaluative framework used to develop the DRGs, regulators could have some faith that those rates would (eventually) embody the conjoined clinical, administrative, and regulatory evaluative judgments concerning the efficient and effective treatment for each type of case. The imposition of uniform rates, therefore, would force hospitals and physicians to operate efficiently and effectively. It is this use of uniform rates, coupled with rate-makers’ confidence that they can account for a tolerable degree of cost variations among hospitals, that constitutes the conceptual core of PPS.<sup>50</sup> Medicare regulators believed that they could impose uniform national rates fine-tuned by adjustments to attain the behavioral effects they desired with only a tolerable degree of undesired subsidiary effects. Hospitals would be forced to become

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48. See Judith R. Lave & Lester B. Lave, *The Extent of Role Differentiation Among Hospitals*, 6 HEALTH SERVICES RES. 15 (1971); Judith R. Lave et al., *Hospital Cost Estimation Controlling for Case-Mix*, 4 APPLIED ECON. 165 (1972); Judith R. Lave & Samuel Leinhardt, *The Cost and Length of a Hospital Stay*, 13 INQUIRY 327 (1976).

49. For example, in 1976, Judith Lave and Samuel Leinhardt studied a sample drawn from a year’s billing data in a large teaching hospital in Pittsburgh. They aggregated patients by means of a diagnostic classification system utilizing 30 categories and thus far less differentiated than the 467 original DRGs. Running regressions using these diagnostic categories, as well as other variables affecting cost and length of stay, they found that the specifications in their model accounted for 45% and 43% of the variations in, respectively, average daily cost and average length of stay for the patients studied. See Lave & Leinhardt, *supra* note 48, at 330-41; see also Lave & Lave, *supra* note 48, at 16-17 (using 17 diagnostic categories and data from 19 Pittsburgh-area hospitals over a three-year period and 65 Pittsburgh-area hospitals over a half-year period); Lave et al., *supra* note 48, at 166 (same). In contrast, in 1982, Pettengill and Vertrees studied a sample comprised of 1.93 million Medicare inpatient hospital discharges in 1979 from 5,947 short-stay hospitals. The sample in turn comprised 20% of all such discharges in that year. Based on this sample and the differentiation of the discharges through use of the 467 DRGs, Pettengill and Vertrees concluded that their model accounted for 72% of the variation in the Medicare cost per case. See Pettengill & Vertrees, *supra* note 18, at 106, 113.

50. Stated generally, a hospital’s reimbursement for each Medicare case is the cost of treating the average Medicare patient, weighted by the relative resources demanded by the particular type of case, as organized through the DRGs and adjusted to account for legitimate cost variation. For a lengthy explication of the averages that form the motivational core of the system, see Frankford, *supra* note 13.

efficient in their production of intermediate products, and physicians would be forced to utilize effective processes of care in the packaging of those products.<sup>51</sup>

### B. *Fostering Competition Through Regulation*

How was this supposed to happen? Ironically, PPS, a system of administered prices, was sold in large part under the ideology that it was "pro-competitive." As David G. Smith relates, in the early 1980s Congress "had been developing the political resolve to make a drastic and radically different change in the system of hospital reimbursement."<sup>52</sup> At the same time, HCFA had been considering the use of various case-mix measures, including the Yale DRGs, to impose more stringent controls on Medicare costs.<sup>53</sup> In that era of substantial political commitment to deregulation,<sup>54</sup> Secretary of DHHS Richard Schweiker, despite substantial internal opposition, latched onto the Yale DRGs as the basis of a prospective payment system. Such a system, he believed, would not encounter opposition from organized medicine and could be sold, first, to the hospital industry as an "objective" methodology which would leave hospitals with managerial discretion, and, second, to the rest of the Reagan White House as a means of control based on "competition" rather than regulation.<sup>55</sup> Hence it is understandable that one can read amazingly self-contradictio-

51. Needless to say, many at HCFA opposed the use of national rates because their assessments of the model's predictive power were more cautious. See SMITH, *supra* note 18, at 28-45, 59. Compare Judith R. Lave et al., *A Proposal for Incentive Reimbursement for Hospitals*, 11 MED. CARE 79, 85-89 (1973) (proposing the use of a case-adjusted per-case reimbursement system with cost sharing between the government and a hospital for deviations from the per-case rate, and with periodic readjustment to account for technological change); Judith R. Lave, *Hospital Reimbursement Under Medicare*, 62 MILBANK MEMORIAL FUND Q. 251, 254-56 (1984) (recommending the immediate abandonment of the use of national rates); and Judith R. Lave, *The Impact of the Medicare Prospective Payment System and Recommendations for Change*, 7 YALE J. ON REG. 499, 521-27 (1990) [hereinafter Lave, *The Impact of PPS*] (recommending various changes to reduce the reliance upon national rates) with Larry A. Oday & Allen Dobson, *Paying Hospitals Under Medicare's Prospective Payment System: Another Perspective*, 7 YALE J. ON REG. 529, 537 (1990) (rejecting Lave's recommendations because her "proposal represents a return to cost-based reimbursement that runs counter to the price incentives put in place by PPS"). Lave was the Director of HCFA's Office of Research from 1980 to 1982. Oday and Dobson were respectively the Director of HCFA's Bureau of Eligibility, Reimbursement and Coverage, and the Director of the Office of Research at the time PPS was designed and implemented.

52. SMITH, *supra* note 18, at 32.

53. See *id.* at 32-35.

54. In Smith's words, "One of the top priorities of the new administration was deregulation or, as President Reagan was fond of saying, 'getting government off the backs of the people.'" *Id.* at 35-36.

55. See *id.* at 3-4, 23-24, 26-27, 35-50, 231-37, 243-48. Smith recounts that congressional passage was obtained largely because the details of PPS were developed in secret, thereby hiding the potential distributional consequences from any Congressman intent on protecting parochial interests. There was not even a bill before the Health Subcommittee of Ways and Means at the time of the "markup" in which the "bill" was "amended," a process Smith likens to "the fabled Chesire cat of *Alice in Wonderland*, that disappeared leaving a grin behind." *Id.* at 50. All in all, it appears that almost no one in Congress understood what the proposal would do. See *id.* at 47-56. Smith summarizes this legislative episode as follows:

Not only was [passage] close to a record for speed, but one of the most important single laws

ry and incoherent statements concerning the aims of PPS, such as the following one, in which competition and rate regulation are strange bedfellows and the control of physicians is pictured as a means of giving them an even greater role in organizational governance:

The rationale for reimbursing hospitals on the basis of a prospective payment system, i.e., a system based on a fixed price per discharge, is to create an incentive for hospitals to operate in a more cost-effective manner. Under the system, hospitals are allowed to retain the amount paid per discharge that is in excess of their costs, but they have to absorb any costs that exceed the amount paid.

In electing to replace the cost-based reimbursement system with a prospective payment system, the government asserted that the following benefits can be obtained from a system that is based on a fixed set of rates for each type of case or discharge and that places hospitals at risk in the use of their resources: it establishes competitive market-like forces in the health care system; it restrains hospital cost increases in order to preserve the integrity of the Medicare trust funds and the financial status of other payors; and it identifies more accurately the product being purchased, which over time will have the desirable effect of determining which services a hospital can, and cannot, deliver more efficiently. In addition, the strong link between payment and diagnosis in a prospective payment system invites more active medical participation in the financial affairs and operating routines of hospitals.<sup>56</sup>

Sadly, the normative framework's strength in the political process is connected with its crucial conceptual weakness. To begin, this weakness is apparent in Fetter's conception that hospital management was irrational because no common language linked clinicians, administrators, and regulators. One asks, "Did clinicians, administrators, and regulators not communicate without the DRGs?" From the beginning of Medicare, the disputes over accounting have been battles over the authority to direct resources. The fact that the conflict raged in that form is unremarkable, for as Max Weber taught us many years ago, control over the language of the books carries with it substantial power both to direct affairs within an organization and to shape the relationship of the

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dealing with health care since the passage of Medicare in 1965, with the possible exception of the Social Security Amendments of 1972, passed both houses of Congress with the most perfunctory of hearings and virtually *no* debate. Perhaps it could have only been passed this way. But the implications of these statements for democratic government are not reassuring.

*Id.* at 56. This was truly a revolution without the masses.

56. 1 Medicare & Medicaid Guide (CCH) ¶ 4203, at 1511-12 (1990).

organization with the outside world.<sup>57</sup> Moreover, it is difficult to understand how the social managerial task could be solved by the purposive supply of language. One asks, "Now that there is a common language, what happens and how does it happen?" The problem is not a failure to communicate but conflicting judgments concerning what is appropriately done.

This lack of specificity in the normative framework, and the resultant complete avoidance of questions regarding authority,<sup>58</sup> help us understand a remarkable aspect of Fetter's work—that it could be all things at once to all people. It could serve as a vehicle for proponents of regulation who were searching for administrative mechanisms by which to get a handle on hospital cost inflation and productivity, while also attempting to render correctly the necessary but very difficult and complex allocative and distributional decisions. Simultaneously, it could serve as a vehicle for proponents of competition, particularly in the early Reagan years, who were trying to dismantle and destroy the very apparatuses sought by proponents of regulation. Similarly, it waged war neither for the physician groups anxious to protect the authority of their members, nor for hospital management hard pressed to assert authority against the clinicians. The framework used by the Yale group could satisfy all camps because there was absolutely no specification of the process to be set in motion by the DRGs and no recourse to a theory of power, other than a vague argument that suddenly everyone would get along.<sup>59</sup>

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57. See MAX WEBER, *ECONOMY AND SOCIETY* 90-100 (Guenther Roth & Claus Wittich eds., 1978). My point here is much more fully elaborated in Frankford, *supra* note 13. I owe a heavy intellectual debt to YOUNG & SALTMAN, *supra* note 37, which has helped me enormously in developing my idea that accounting is the exercise of power. For a fascinating historical account, see Bruce G. Carruthers & Wendy N. Espeland, *Accounting for Rationality: Double-Entry Bookkeeping and the Rhetoric of Economic Rationality*, 97 AM. J. SOC. 31 (1991). I am grateful to Kevin Delaney for steering me to Carruthers and Espeland.

58. See James A. Morone, *American Political Culture and the Search for Lessons from Abroad*, 15 J. HEALTH POL., POL'Y & L. 129 (1990).

59. As Bruce C. Vladeck has captured, the DRGs were perhaps less a basis for prediction than a source of inspiration:

But even if prospective payment, in any number of forms, can achieve significant savings, the ultimate issue must always be not the economic side of the equation but the implications for what actually happens to actual Medicare beneficiaries in need of actual medical services. Here it is important to remember the aspirations, if not yet the demonstrated performance, that lie at the root of the development of DRG-based payment. As opposed to any other currently available methods for prospective price-setting for hospitals, DRGs focus, at one and the same time, both on the specific issue of hospital productivity for clinically defined products, and on the identification and scrutiny of the patterns of care being rendered in individual institutions. In other words, what DRGs are all about is finding a mix of services that, in the inevitable statutory phraseology, are both efficient and effective. That is an aspiration that extends far beyond fiscal solvency. If it succeeds, then it will succeed at addressing some of the broadest and most basic concerns of Medicare, not just its potentially transient fiscal problems.

Bruce C. Vladeck, *Comment on "Hospital Reimbursement Under Medicare,"* 62 MILBANK MEMORIAL FUND Q. 269, 277-78 (1984).



### C. *Relying upon Organizational Rationality to Generate Organizational Rationality*

Stated more particularly, the problem is a failure to specify the meaning of the organizational rationality that PPS was supposed to invoke or generate. Rationality is an individual faculty, and our theories of organizational behavior have to work hard to transform an individual attribute into a collective mechanism or characteristic. Here there are three relevant dimensions in the models of hospital behavior.<sup>60</sup> First, there is the conception of individual rationality. With a few notable exceptions to be discussed below, most of the models invoke a conception of rationality in which individuals within the hospital are purposeful maximizers.<sup>61</sup> This conception is the one handed down to us from nineteenth century social scientific positivism.<sup>62</sup> Individuals canvass all possible means to effectuate an end, which they then act to attain. Second, there is the conception of the objects of rationality.<sup>63</sup> Here there are multiple possibilities: hospital cash flow or net revenue;<sup>64</sup> hospital reimbursement;<sup>65</sup> an optimal mix, as perceived by the hospital, of patient-care services, amenities for patients and physicians, and operating surpluses;<sup>66</sup> number of hospital sales;<sup>67</sup> physician income;<sup>68</sup> an optimal mix of physician income, time, convenience and reputation;<sup>69</sup> the net present value of proprietary shareholders' equity;<sup>70</sup> number and mix of patients treated, as perceived by the hospital<sup>71</sup> or by physicians;<sup>72</sup> an optimal mix of quantity and quality of services, as

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60. My discussion here has been aided greatly by YOUNG & SALTMAN, *supra* note 37, at 21-38, and Philip Jacobs, *A Survey of Economic Models of Hospitals*, 11 *INQUIRY* 83 (1974), although both my taxonomy and focus are somewhat different from theirs. I have also benefitted from the literature review in ROSKO & BROYLES, *supra* note 10, at 105-29.

61. For a classic criticism, see Herbert A. Simon, *Rationality as Process and as Product of Thought*, 68 *AM. ECON. REV. PAPERS & PROC.* 1 (1978).

62. See generally TALCOTT PARSONS, *THE STRUCTURE OF SOCIAL ACTION* 51-74 (1968).

63. See generally ALBERT O. HIRSCHMAN, *THE PASSIONS AND THE INTERESTS* 9-66 (1977).

64. See KAREN DAVIS, *ECONOMIC THEORIES OF BEHAVIOR IN NONPROFIT, PRIVATE HOSPITALS* (1971).

65. See Martin Feldstein, *Hospital Cost Inflation: A Study of Nonprofit Price Dynamics*, 61 *AM. ECON. REV.* 853 (1971).

66. See FRANK A. SLOAN & BRUCE STEINWALD, *INSURANCE, REGULATION, AND HOSPITAL COSTS* 18-22 (1980).

67. See Robert G. Rice, *Analysis of the Hospital as an Economic Organism*, 106 *MOD. HOSP.* 87, 88 (1966).

68. See Mark Pauly & Michael Redisch, *The Not-For-Profit Hospital as a Physicians' Cooperative*, 63 *AM. ECON. REV.* 87 (1973).

69. See MARK V. PAULY, *DOCTORS AND THEIR WORKSHOPS: ECONOMIC MODELS OF PHYSICIAN BEHAVIOR* 17-24 (1980).

70. See Michael A. Morrisey et al., *Hospital Rate Review: A Theory and an Empirical Review*, 3 *J. HEALTH ECON.* 25, 27 (1984).

71. See HERBERT E. KLARMAN, *THE ECONOMICS OF HEALTH* 121 (1965); Carole Siegel, *A Risk-Based Prospective Payment System That Integrates Patient, Hospital and National Costs*, 11 *J. HEALTH ECON.* 1, 3-4, 9, 16-17 (1992).

72. See Melvin W. Reder, *Some Problems in the Economics of Hospitals*, 56 *AM. ECON. REV. PAPERS & PROC.* 472, 479-80 (1965).

perceived by the hospital and embodied in the scope of facilities and services;<sup>73</sup> an optimal mix of number of admissions, case-mix, quality and profits, as perceived by physicians;<sup>74</sup> salary, prestige, security, power, and professional satisfaction as perceived by administrators<sup>75</sup> or by physicians;<sup>76</sup> technical control;<sup>77</sup> uncertainty within the organization;<sup>78</sup> or institutional growth.<sup>79</sup> Third, regardless of the objects of rationality, there is the conception whether and to what extent this individual faculty is converted into a unified organizational rationality.

With regard to this last dimension, which is the central focus of this article, we can distinguish among three types of models. In the first, the problem of merging individual rationality into the organizational rationality of a complex organization is simply assumed away. The hospital truly is an organism, adapting to its changing and hostile environment in a rationally maximizing way.<sup>80</sup> It is in this limited sense that I use the word "organistic" in this article. By means of a crude economic functionalism, a complex organization is assumed to be a single, unified organism which is governed by a rational whole. Under this assumption, the "mind" of the organization weaves its disparate parts into a coordinated unit that then acts to attain a unified and ordered preference scheme. In these organistic models, the fact that there are multiple actors in the hospital—much less multiple types of actors—is simply ignored. The hospital is "the firm" in the neoclassical tradition.<sup>81</sup>

In contrast, in the second type of model, it is recognized that multiple actors comprise the hospital and that different occupational categories of actors—physicians, administrators, nurses, and so forth—might pursue different agendas. Nonetheless, even in this second type, the organization effectively operates like the simple unified organism. Either it is assumed that the maxi-

73. See Joseph P. Newhouse, *Toward a Theory of Nonprofit Institutions: An Economic Model of a Hospital*, 60 AM. ECON. REV. 64 (1970).

74. See Marsha Goldfarb et al., *Behavior of the Multiproduct Firm: A Model of the Nonprofit Hospital System*, 18 MED. CARE 185 (1980).

75. See Maw Lin Lee, *A Conspicuous Production Theory of Hospital Behavior*, 38 S. ECON. J. 48 (1971).

76. See YOUNG & SALTMAN, *supra* note 37, at 42-46. See generally EISENBERG, *supra* note 7, at 29-86.

77. See generally ELIOT FREIDSON, *PROFESSIONAL POWERS: A STUDY OF THE INSTITUTIONALIZATION OF FORMAL KNOWLEDGE* (1986).

78. See Jeffrey E. Harris, *The Internal Organization of Hospitals: Some Economic Implications*, 8 BELL J. ECON. 467 (1977).

79. See YOUNG & SALTMAN, *supra* note 37.

80. From my examples above, these models are DAVIS, *supra* note 64; Feldstein, *supra* note 65; SLOAN & STEINWALD, *supra* note 66, at 11-35; Rice, *supra* note 67; KLARMAN, *supra* note 71, at 121-24, 131-44; Siegel, *supra* note 71, at 3-4, 9, 16-17; Reder, *supra* note 72; Newhouse, *supra* note 73; Goldfarb et al., *supra* note 74; and Lee, *supra* note 75.

81. My term "organistic" therefore does not include uses of the biological metaphor in organizational theory, such as the adaptation and selection models that fall into the third type discussed immediately below. I am grateful to David Mechanic for suggesting this clarification.

mizing strategy of one type of actor is the sole form of rationality at work,<sup>82</sup> or it is assumed that this form of rationality predominates in the form of a fairly unspecified organizational equilibrium. Sometimes this rationality is pictured as deriving from a cooperative or noncooperative equilibrium obtaining between the different but homogeneous groups.<sup>83</sup> In more sophisticated versions, the predominant type of actor is differentiated into individuals who coexist within a cooperative, exchange equilibrium.<sup>84</sup> In neither instance, however, is it explained just how this cooperative or noncooperative equilibrium exists, given the underlying supposition that the hospital is composed of multiple actors who pursue egoistic, maximizing, and sometimes inconsistent strategies. Moreover, all of these equilibrium models essentially efface each hospital as an organization *sui generis*, for they picture all hospitals as “just a neutral forum within which individual actors pursue their personal goals.”<sup>85</sup> Even where “the hospital” is a separable interest, included in either “the physician’s” utility function or the budget constraint she faces,<sup>86</sup> this interest is given no embodiment in flesh and bones. This “hospital” to be affected by “the physician” remains an abstraction—to iterate, a neutral forum for individual interest seeking—in which specification of the equilibrating process is limited to a vague structural characteristic (cooperative, noncooperative, or duopolistic), the point that the transactions costs of internal organization increase with size of the medical staff, and the point that the “quality objectives” of the nonprofit

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82. It is assumed that multiple actors within broad occupational categories follow a unified strategy. The rationality of the organization is then driven solely by the rationality of one these sets—e.g., “the medical staff” or “the administration.” See, e.g., Rice, *supra* note 67; KLARMAN, *supra* note 71, at 121-24, 131-44; Newhouse, *supra* note 73, at 65; SLOAN & STEINWALD, *supra* note 66, at 19; Goldfarb et al., *supra* note 74, at 186 n.8; see also Jacobs, *supra* note 60, at 84-92.

83. See, e.g., Cotton M. Lindsay & James M. Buchanan, *The Organization and Financing of Medical Care in the United States*, in HEALTH SERVICES FINANCING 535 (British Medical Ass’n ed., 1970); Kenneth Clarkson, *Some Implications of Property Rights in Hospital Management*, 15 J.L. & ECON. 363 (1972).

84. See, e.g., Pauly & Redisch, *supra* note 68; PAULY, *supra* note 69, at 20-22; Frank A. Sloan & Edmund R. Becker, *Internal Organization of Hospitals and Hospital Costs*, 18 INQUIRY 224, 225-28 (1981); Patricia M. Danzon, *Hospital “Profits”: The Effect of Reimbursement Policies*, 1 J. HEALTH ECON. 1, 38 (1982); Morrisey et al., *supra* note 70, at 26-27; Seidman & Frank, *supra* note 3, at 158, 166-68; Gail A. Jensen & Michael A. Morrisey, *Medical Staff Specialty Mix and Hospital Production*, 5 J. HEALTH ECON. 253, 255-56 (1986) [hereinafter Jensen & Morrisey, *Medical Staff Specialty Mix*]; Gail A. Jensen & Michael A. Morrisey, *The Role of Physicians in Hospital Production*, 68 REV. ECON. & STATISTICS 432, 432-33 (1986) [hereinafter Jensen & Morrisey, *The Role of Physicians*]; Pauly, *supra* note 14, at 260; Kenneth E. Thorpe & Charles E. Phelps, *Regulatory Intensity and Hospital Cost Growth*, 9 J. HEALTH ECON. 143, 147 & n.7 (1990).

Pauly & Redisch, *supra* note 68, is a breathtaking piece of work. It was written in the context of prior models in which the physician barely appeared in “the hospital,” and it singularly eliminated such models as a possibility. A relatively early essay by Michael A. Redisch was also fairly unique in that there was an extended argument why a physician-dominated model was appropriate. See Michael A. Redisch, *Physician Involvement in Hospital Decision Making*, in HOSPITAL COST CONTAINMENT 217, 217-21 (M. Zubkoff et al. eds., 1978).

85. YOUNG & SALTMAN, *supra* note 37, at 22; see Jacobs, *supra* note 60, at 92-96.

86. See, e.g., Pauly & Redisch, *supra* note 68; PAULY, *supra* note 69; Sloan & Becker, *supra* note 84; Danzon, *supra* note 84; Seidman & Frank, *supra* note 3; Jensen & Morrisey, *Medical Staff Specialty Mix*, *supra* note 84; Jensen & Morrisey, *The Role of Physicians*, *supra* note 84; Pauly, *supra* note 14.

firm are consistent with the "quality objectives" of consumers and their external agents. Additionally, other actors in the hospital, particularly managers, are given no objectives other than satisfying physicians, and thus the models ignore the possibility of conflicting objectives. Finally, "the physician" and "the hospital" are both homogeneous and very abstract constructs. The models are thus incapable of considering particularities among them.

The third type of models, which together fall under the rubric "organizational theory," lifts this veil of abstraction. There remains the conception of an equilibrium at work, but the equilibrium itself takes on the characteristics of means-end rationality,<sup>87</sup> in which its objects are the ends that individual actors themselves pursue.<sup>88</sup> Thus, in the most fully elaborated form of this last type of model, it is posited that throughout time the strategies of all actors in each unique hospital are constantly bent into an adaptive form that is focused on the object of organizational survival.<sup>89</sup> This rich and complicated process thus

87. It can be conceptualized either that "the organization" itself satisfices or that individuals are forced to do so. See Noralou P. Roos, *Influencing the Health Care System: Policy Alternatives*, 22 PUBLIC POL'Y 139, 141 n.10 (1974). When individuals or organizations satisfice, they make due with means and ends they deem "good enough" rather than try in vain to optimize. See, e.g., Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q.J. ECON. 99 (1955).

88. See, e.g., Stephen M. Shortell et al., *Strategy Making in Health Care Organizations: A Framework and Agenda for Research*, 42 MED. CARE REV. 219, 222 (1985) (defining "emergent strategies" as "realized strategies that were never intended by the organization. They represent spontaneous adaptive and largely unconscious strategies that may have arisen as a function of rapidly changing external forces."). If I were to choose among behavioral models of organizational rationality relevant to most if not all hospitals, I would prefer the one picturing organizational choice as organized anarchy, in which an organization "can be described better as a loose collection of ideas than as a coherent structure; it discovers preferences through action more than it acts on the basis of preferences." Michael D. Cohen et al., *A Garbage Can Model of Organizational Choice*, 17 ADMIN. Q. 1 (1972). More fully, one can view organizational choice:

- as a garbage can into which various kinds of problems and solutions are dumped by participants as they are generated. The mix of garbage in a single can depends on the mix of cans available,
- on the labels attached to the alternative cans, on what garbage is currently being produced, and
- on the speed with which garbage is collected and removed from the scene.

*Id.* at 2; see, e.g., Ashmos & McDaniel, *supra* note 9 (applying Cohen, March and Olsen's concept of fluid participation in organizational choice). However, even with this relaxation of the ends-means distinction, I become concerned when organizational actors become mere "carriers of problems and solutions," see, e.g., Lawrence T. Pinfield, *A Field Evaluation of Perspectives on Organizational Decision Making*, 31 ADMIN. SCI. Q. 365, 379 (1986), when an organization is given a unified "world view," see, e.g., Richard L. Daft & Karl E. Weick, *Toward a Model of Organizations as Interpretation Systems*, 9 ACAD. MGMT. REV. 284 (1984); James B. Thomas et al., *Hospitals as Interpretation Systems*, 25 HEALTH SERVICES RES. 859, 863-64, 871-72 (1991), or even when these theoretical formulations are combined. See Ashmos & McDaniel, *supra* note 9, at 377-80. To unite power and information, and to preserve the uniqueness of individual actors while integrating them into a cognate, expressive and normative but not necessarily unified organizational structure and process, I would probably abandon behavioral models in favor of symbolic interactionist ones, see, e.g., ANSELM L. STRAUSS, *MIRRORS AND MASKS: THE SEARCH FOR IDENTITY* (1977), reflecting my preference for interpretation against explanation. See generally Linda Smircich, *Concepts of Culture and Organizational Analysis*, 28 ADMIN. SCI. Q. 339 (1983). For present purposes, however, I can stop at the threshold of satisficing, behavioral models.

89. See, e.g., Paul J. Gordon, *The Top Management Triangle in the Voluntary Hospital*, 9 HOSP. ADMIN. 46 (1964); Basil S. Georgopoulos, *The Hospital as an Organization and Problem Solving System*, in ORGANIZATIONAL RESEARCH ON HEALTH INSTITUTIONS: 9 (Basil S. Georgopoulos ed., 1972); Duncan Neuhauser, *The Hospital as Matrix Organization*, 17 HOSP. ADMIN. 8 (1972); Harris, *supra* note 78; W. Richard Scott, *Health Care Organizations in the 1980s: The Convergence of Public and Professional Control Systems*, in CONTEMPORARY HEALTH SERVICES: SOCIAL SCIENCE PERSPECTIVES 177 (A.W. Johnson

enables the hospital, a complex organization, to persist despite the existence of a hostile external environment and an internal situation marred by internecine warfare, all of which is extremely fluid.<sup>90</sup>

Fetter's work and that of the designers of PPS simply ignored the complications indicated by the models based on a simple or complex equilibrium. Fetter's work does incorporate a conception of adaptive rationality. The use of the DRGs in reimbursement and quality assurance purportedly enables the sovereign "to implement equitable rate setting, monitor hospital performance, and at the same time produce a feedback to each hospital of information for

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et al. eds., 1982); W. Richard Scott, *Managing Professional Work: Three Models of Control for Health Organizations*, 17 HEALTH SERVICES RES. 213 (1982); YOUNG & SALTMAN, *supra* note 37; Phelps, *supra* note 6, at 112-16; Weiner et al., *supra* note 37; Charles E. Phelps & Itai Sened, Market Equilibria with Not-for-Profit Firms (March 28, 1990) (unpublished draft); cf. ANDREW ABBOTT, THE SYSTEM OF PROFESSIONS: AN ESSAY ON THE DIVISION OF EXPERT LABOR (1988) (describing a dynamic equilibrium between competing professional groups). For a recent general summary, see RICHARD M. CYERT & JAMES G. MARCH, A BEHAVIORAL THEORY OF THE FIRM 214-38 (2d ed. 1992). For a manifesto regarding the application of a theory of organizational adaptation in the face of regulatory and competitive selection, see Karen Cook et al., *A Theory of Organizational Response to Regulation: The Case of Hospitals*, 8 ACAD. MGMT. REV. 193 (1983); Shortell et al., *supra* note 88. For an extremely helpful discussion of the core concept of strategic adaptation, see John R. Kimberly & Edward J. Zajac, *Strategic Adaptation in Health Care Organizations: Implications for Theory and Research*, 42 MED. CARE REV. 267 (1985). In Section V below, I discuss some literature from organizational theory concerning the structural and procedural forms of this adaptive rationality.

90. Admittedly, my typology contains categories that are fuzzy at the edges, as do all categories useful for analytic purposes. Most prominently, in some models "the hospital" is given incentives different than physicians and the range of incentives is broadened, even to include ethical considerations. See Randall P. Ellis & Thomas G. McGuire, *Provider Behavior Under Prospective Reimbursement: Cost Sharing and Supply*, 5 J. HEALTH ECON. 129 (1986); Richard G. Frank et al., *The Impact of Medicare's Prospective Payment System on Psychiatric Patients Treated in Scatterbeds*, 8 ADVANCES HEALTH ECON. & HEALTH SERVICES RES. 1, 5 (1987); Kyle L. Grazier & Thomas G. McGuire, *Payment Systems and Hospital Resource Use: A Comparative Analysis of Psychiatric, Medical and Obstetric Services*, 8 ADVANCES HEALTH ECON. & HEALTH SERVICES RES. 75, 79-80 (1987); Judith R. Lave & Richard G. Frank, *Factors Affecting Medicaid Patients' Length of Stay in Psychiatric Units*, HEALTH CARE FINANCING REV., Winter 1988, at 57, 58 (1988) [hereinafter Lave & Frank, *Factors Affecting Medicaid Patients' Length of Stay in Psychiatric Hospitals*]; William S. Custer et al., *The Production of Health Care Services and Changing Hospital Reimbursement: The Role of Hospital-Medical Staff Relationships*, 9 J. HEALTH ECON. 167 (1990). Although it remains unclear to me who "the hospital" is in these models, and although the picture of organizational life is not nearly as rich as in Harris's work, the models are nonetheless a clear departure from the prior, single-headed models of the hospital in the neoclassical tradition. In short, these authors give "the hospital" an existence. I therefore see them as a bridge between the simple and complex equilibrium models, because the *sine qua non* of the latter is that each organization strives to maintain its autonomy and unique identity. See, e.g., Cook et al., *supra* note 89, at 197. Nonetheless, as Lave and Frank have commented, "the relationships between physicians, patients, and hospitals need to be better characterized in empirical analyses. Research by Ellis and McGuire . . . offers theoretical characterizations of these relationships. Empirical analyses need to catch up to this work." Judith R. Lave & Richard G. Frank, *Hospital Supply Response to Prospective Payment as Measured by Length of Stay*, 11 ADVANCES HEALTH ECON. & HEALTH SERVICES RES. 1, 19 (1990) [hereinafter Lave & Frank, *Hospital Supply Response to Prospective Payment*]; see also Phelps, *supra* note 6, at 112-16; Thorpe & Phelps, *supra* note 84, at 147 & n.7.

each institution to review and evaluate its own performance and quality criteria."<sup>91</sup> More fully, this system of informational cybernetics has the following capability:

The result of comparison of resource requirements with resource use is a set of measures of hospital performance capable of producing the required utilization reports by hospital and comparing hospitals and groups of hospitals. Such measures must be viewed in an adaptive manner as it is to be expected that review and feedback of results will produce, over time, alterations in behavior. Thus, [evaluation of a hospital's performance] . . . deriv[es] from both experience and judgment but requir[es] actual data for verification and/or change.<sup>92</sup>

However, at the crucial point of specifying what it is that is adapting, Fetter's model falls short. It is specified that authority in the hospital is bifurcated into two lines, one headed by physicians and one by administrators. On the clinical side, the physician is in charge of the "Patient Care Team, which is composed of personnel (nurse, radiologist, pathologist, technician, therapist, dietician, social worker, etc.) delivering support services from their respective functional departments (Nursing, Radiology, Pathology, Operating Room, Physical Therapy, Dietary, Social Services, etc.)."<sup>93</sup> On the administrative side, authority is held by the "administrators of the intermediate product centers. Specifically, the administrators of the laboratory, kitchen, blood bank, and so forth are responsible for the production, including quality control, of the respective department's services. They therefore are accountable to the Chief Executive Officer for the efficiency with which specific services, ordered by the physicians, are provided."<sup>94</sup> Yet, the model then assumes away the important question of how it is that these lines meet within an organization. It is merely stipulated that the bifurcated structure "allows *the organization* to assign specific organizational authority and responsibility."<sup>95</sup> In other words, at this point it is presupposed that a unified entity, the hospital, has rationally determined its mode of organization. We are in a regress, and the hospital has again simply become a unified organism, steered by external forces.<sup>96</sup> It can then

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91. Fetter et al., *supra* note 4, at 130-31.

92. *Id.* at 135.

93. Fetter & Freeman, *supra* note 2, at 47-49. Given the conception that the hospital is a multiproduct firm driven by the unique needs of individual patients, this hierarchy is pictured as relatively fluid: "These teams are formed around each patient as he/she arrives for the duration of his/her stay. Thus, as patients are admitted and discharged, teams can be found 'constantly forming, dissolving, and forming again, perhaps rarely with the same membership'." *Id.* at 49.

94. *Id.*

95. *Id.* (emphasis added).

96. The metaphor of force affecting the behavior of the organism is very important in the literature concerning PPS. See, e.g., Judith Feder et al., *How Did Medicare's Prospective Payment System Affect*

be assumed that the bifurcated lines of authority, equipped with a common language, would somehow generate “rationalization.” There is thus no need for either a linkage between the language of the DRGs and the rational results to be attained, or a theory explicating the manner in which the DRGs would meld different components into a rationally acting whole. Put somewhat differently, after developing a rich picture of organizational life, Fetter and the designers of PPS in the end gave into the “seductiveness [that] economic incentives hold for policy analysts. Economic logic appeals to common sense and its prescriptions appear to be self-executing: change the financial rewards and behavior changes.”<sup>97</sup>

### III. The Predicted Course of Hospitals’ Organistic Rationality Under PPS

This lack of specification—this assumed essential rationality of “the hospital”—similarly generated (and still generates) numerous predictions of what “hospitals” would do under PPS. In article after article, there is a discussion of how “the hospital” had “acted” before PPS, what it has done during PPS, and what it will do in the future.<sup>98</sup> As summarized by the authors of a recent literature review, “PPS was designed to create incentives for the balancing of costs and benefits in treating patients. In the economic model of the hospital as thus construed, the hospital is a black box, calculating and adjusting bloodlessly to the new regime.”<sup>99</sup> The authors also noted that the massive amount of literature “is more impressive for its size than for its value in understanding how PPS works and the pattern of its effects.”<sup>100</sup> These two points are connected because both public policy and the predicted effects thereof were largely based on the black-box models, which utilize an organistic view of hospital rationality,<sup>101</sup> and because the massive literature then consists of efforts to

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*Hospitals?*, 317 NEW ENG. J. MED. 867 (1987); Jack Hadley et al., *Profits and Fiscal Pressure in the Prospective Payment System: Their Impacts on Hospitals*, 26 INQUIRY 354 (1989) (associating the impact of PPS with the degree of fiscal pressure applied to individual and classes of hospitals and using hospitals’ anticipated total PPS profits or losses to construct an ordinal proxy for the amount of force faced by different institutions).

97. Weiner et al., *supra* note 37, at 464.

98. For an apt illustration, see Seidman & Frank, *supra* note 3, at 163-73.

99. Robert F. Coulam and Gary L. Gaumer, *Medicare’s Prospective Payment System: A Critical Appraisal*, HEALTH CARE FINANCING REV., 1991 Ann. Supp., at 45, 64. My discussion concerning predicted and actual responses is heavily indebted to this extremely helpful survey. For other helpful summaries, see Joe Feinglass & James J. Holloway, *The Initial Impact of the Medicare Prospective Payment System on U.S. Health Care: A Review of the Literature*, 48 MED. CARE 91 (1991); LEWIN/ICF, AN EXAMINATION OF WINNERS AND LOSERS UNDER MEDICARE’S PROSPECTIVE PAYMENT SYSTEM: A SYNTHESIS OF THE EVIDENCE, EXTRAMURAL REPORT E-91-06 (1991) (report prepared for the Prospective Payment Assessment Commission); Lave, *The Impact of PPS*, *supra* note 51. Hereinafter I will no longer put scare quotes around “the hospital.”

100. Coulam & Gaumer, *supra* note 99, at 46.

101. If any lesson is to be taken from this Article, it should be that I agree with Coulam and Gaumer in their call for more qualitative work in this context and in health services research more generally. They wrote:

verify these predictions, with only a few attempts to falsify the underlying model of organizational rationality.<sup>102</sup>

What rational choices were supposed to be made?<sup>103</sup> Stated generally, the hospital, qua organism, was predicted to act like the "firm" modeled by neoclassical economics. Responding to the financial incentives embedded within PPS, it would rationally weigh margins of revenue against margins of cost for a case or a highly differentiated group of cases, while accounting for its ability to affect its revenue for a case or group of cases. These choices were expected to be differentiated by DRG because marginal revenue in this context means net change in reimbursement, which in turn is driven largely by the rate for each DRG, and because the margin of cost is supposedly differentiated by DRG.<sup>104</sup>

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[T]he management literature and the effects literature are not joined. In the end, we lack a systematic, concrete picture of how the significant changes in operations under PPS were actually administered. A more detailed appraisal of the connection between hospital operations and PPS effects would give us a better understanding of how hospitals generate and control costs and would give us a more reliable foundation for making policies to shape the hospital environment.

*Id.* at 64; see Kimberly & Zajac, *supra* note 89, at 287-88 (arguing that "to understand patterns of change at the level of individual institutions, one needs to understand both the macro environmental changes and their specific institutional implications and the micro behavioral changes that are occurring within these institutions"); see *id.* at 270, 277, 279-82, 287-98; Ashmos & McDaniel, *supra* note 9, at 376, 393. In this regard, the collaborative work between Michael A. Morrisey and organizational theorists has been fairly unique, for it has bridged to some extent the gap between the neoclassical models of "the firm" and organizational theory. See, e.g., Cook et al., *supra* note 89 (collaboration between Cook, Shortell, Conrad and Morrisey); Morrisey et al., *supra* note 70 (collaboration between Morrisey, Conrad, Shortell and Cook); Jeffrey A. Alexander et al., *Effects of Competition, Regulation, and Corporatization on Hospital-Physician Relationships*, 27 J. HEALTH & HUM. BEHAV. 220 (1986) (collaboration between Shortell, Morrisey and Conrad).

102. My view here is informed by the large literature in both the philosophy and sociology of the natural and social sciences in which it is shown that science does not proceed by falsification. See, e.g., LUDWIK FLECK, GENESIS AND DEVELOPMENT OF A SCIENTIFIC FACT (Thaddeus J. Trenn & Robert K. Merton eds., and Fred Bradley & Thaddeus J. Trenn trans., 1979); CAN THEORIES BE REFUTED? ESSAYS ON THE DUHEM-QUINE THESIS (Sandra G. Harding ed., 1976). To its great credit, the Prospective Payment Assessment Commission (ProPAC) has questioned underlying premises, in part because it has been developing the necessary qualitative work. I discuss this point more fully below. See *infra* notes 157, 235-48 and accompanying text.

103. My summary of the predictions is gleaned from Seidman & Frank, *supra* note 3, at 163-73; RUSSELL, *supra* note 1, at 24-46, 69-82; LEWIN/ICF, *supra* note 99, at 15-19; Coulam & Gaumer, *supra* note 99; and the various ProPAC reports, such as PROSPECTIVE PAYMENT ASSESSMENT COMM'N, MEDICARE PROSPECTIVE PAYMENT AND THE AMERICAN HEALTH CARE SYSTEM: REPORT TO THE CONGRESS 11-54 (1989). Many of the predictions pertained to all hospitals, rather than particular hospitals categorized by type, size or location. Where relevant I discuss the more particular predictions. I have attempted to be quite comprehensive, but given space limitations, it would be impossible for me to canvass the entire range of predictions and effects.

104. The supposition that hospitals would respond to margins of cost is not dependent upon neoclassicism's construct of the marginal cost of production. Instead, the margins could refer to differences between average costs. For example, suppose that there are two possible tests to be used for a particular DRG, with average costs of \$100 and \$150. The margin of cost can refer to this difference.



### A. *The Site of Care*

For purposes of analysis, the predicted choices can be organized around three categories: (1) the site of care; (2) the process of care; and (3) the financing of care. With regard to the site of care, there were three groups of predictions, two of which stem from the fact that PPS rates apply only to stays in short-term acute-care hospitals and not to care provided on an outpatient basis,<sup>105</sup> in an exempt free-standing hospital or "distinct-part unit,"<sup>106</sup> or in post-acute care facilities such as nursing homes and home health care agencies.<sup>107</sup> First, hospitals were expected to shift some entire episodes of care to outpatient facilities. These shifts were supposed to occur selectively, with hospital managers weighing the differences in costs and reimbursement between the alternative sites. Hospitals were also expected to unbundle some services from the inpatient stay and to provide them prior to admission.<sup>108</sup> Second, hospitals were expected to release patients earlier and to discharge them home or to various types of nursing care facilities, home health care, or exempt facilities and distinct-part units. These decisions too were expected to be differentiated by DRG.<sup>109</sup> It was also predicted that if necessary, hospitals

105. See 42 U.S.C.A. § 1395ww(a)(4) (West 1992).

106. Exempted are psychiatric, rehabilitation, children, long-term, and certain cancer hospitals, as well as qualifying "distinct-part units" providing rehabilitation and psychiatric care within hospitals subject to PPS. See 42 U.S.C.A. § 1395ww(d)(1)(B) (West 1992). To qualify as a "distinct-part unit," the unit must be primarily engaged in providing rehabilitation or psychiatric care, and it must satisfy specified requirements such as separately identifiable admission and discharge records, physically separate beds, establishment as a separate cost center, state licensure laws, appropriate utilization review standards, and servicing by the hospital's fiscal intermediary. See 1 Medicare & Medicaid Guide (CCH) ¶¶ 4221.02-.03 (1990).

107. After an inpatient stay, Medicare beneficiaries are eligible for benefits provided in such post-acute care facilities. There are separate reimbursement structures for each type. See generally 1 Medicare & Medicaid Guide (CCH) ¶¶ 1300-1500 (1990).

108. With regard to preadmission unbundling there was less reason to expect differentiation among types of DRGs. The incentive to unbundle stems from the fact that part A reimbursement is fixed for each DRG. Therefore, a hospital could provide services prior to an admission and obtain part B reimbursement for those services on top of the part A payment for the subsequent inpatient stay. This "double-dipping" would pay so long as the part B reimbursement exceeded the outpatient cost of the service and so long as this marginal revenue exceeded any increased cost imposed by the decision to unbundle. The literature evidences no expectation that this calculus would be DRG-dependent.

109. The degree of integration between the hospital and the provider of post-acute or exempt care complicates the incentives in this area. If the hospital has no relationship with that provider, then one would not expect it to weigh the cost incurred and reimbursement levels available for the follow-up or exempt care against the costs and reimbursement levels of continued inpatient services. If, however, there is some degree of integration, the calculus would depend upon the type of integration, see Judith R. Lave et al., *The Decision to Seek an Exemption from PPS*, 7 J. HEALTH ECON. 165, 166 (1988), as well as the benefits to be gained from the use of creative accounting to allocate costs. See PROSPECTIVE PAYMENT ASSESSMENT COMM'N, MEDICARE AND THE AMERICAN HEALTH CARE SYSTEM: REPORT TO THE CONGRESS 99-102 (1991). Indeed, this area in particular indicates how difficult it is to infer a hospital's rational choice from observations of its behavior. See also Pauly, *supra* note 14, at 258 ("The heart of the problem is that the [hospital's utility] function is usually unobservable."); Joseph P. Newhouse & Daniel J. Byrne, *Did Medicare's Prospective Payment System Cause Length of Stay to Fall?*, 7 J. HEALTH ECON. 413 (1988) (discussing difficulties in defining observations). The problem is much more general, however, as indicated by a striking explication by Grazier and McGuire. Suppose we observe a drop in length of stay. We must ask:

would create exempt facilities and units for this purpose. Third, the use of per-case rates was expected to cause hospitals to identify their strong and weak suits. It was predicted that hospitals would segregate specific product lines, eliminate the losing ones, and specialize in those they could make win.<sup>110</sup>

### B. *The Process of Care*

The hospital product, whether differentiated by DRG or not, can be conceived as a mix of the inpatient stay, the number and types of services provided during that stay, the different technologies used in the provision of those services, and the capital and types of labor used in service delivery. Therefore, with regard to the process of care, there were four linked groups of predictions, organized around the four major ways that hospitals can alter their costs. It was predicted that hospitals would alter (1) length of stay; (2) physicians' use of diagnostic and treatment modalities during the stay; (3) the rate of technological innovation and diffusion; and (4) the labor and nonlabor inputs provided physicians and the mix of nonphysician and physician labor used in treatment. Because each element of cost potentially affects the other elements, optimal decision making would have to account for these interactions.

First, hospitals were supposed to reduce lengths of stay. These actions were to occur selectively in that a hospital would attempt to hit or better the norm embodied in the rate for a DRG, while weighing, first, the manner in which a deviation would affect its own unique financial picture and, second, the constraints imposed by such factors as malpractice, peer review, the ethical commitment to quality of care, and competition among hospitals with regard to reputation.

Second, hospitals were expected to reduce the number and qualitative types of services provided during a stay—the so-called “intensity of care.”<sup>111</sup> A

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Is utilization demand constrained (the patient desires less service than the hospital wishes to supply and refuses recommended treatment), supply constrained (the patient desires more than the hospital is willing to supply and the patient is discharged before he or she would choose), or is there some accommodation of demand and supply interests?

Grazier & McGuire, *supra* note 90, at 88. It would seem that there cannot be an a priori assumption, for “[i]n general, one would suspect the LOS to be a negotiated decision between the patient (and his or her agent), and the hospital (and its agent).” *Id.* at 90. For a general, introductory discussion of the problem of inferring individual, much less organizational, mental states from observed behavior, see LEN DOYAL & ROGER HARRIS, *EMPIRICISM, EXPLANATION AND RATIONALITY* 52-72 (1986).

110. I am omitting discussion of decisions to close a facility or to withdraw beds from service because such decisions do not directly involve product-line management.

111. The word “intensity” is sometimes used to refer just to the number of service units provided during a stay—for example, “number of imaging tests.” See, e.g., Coulam & Gaumer, *supra* note 99, at 56. The difficulty with this usage is that a numerical count of service units cannot account for changes in the qualitative differences among the units—for example, a technological change in the “imaging unit” from an x-ray to a CT-scan. See John L. Ashby, Jr. & Stuart H. Altman, *The Trend in Hospital Output and Labor Productivity, 1980-1989*, 29 *INQUIRY* 80, 83-85 (1992). Accordingly, a better usage of “intensity” includes

shorter stay, however, would possibly require either that the same number and types of services be delivered over a shorter duration or that there be greater intensity of services. Therefore, hospitals were expected to balance the costs and benefits of different levels of service intensity against the costs and benefits of different lengths of stay. Again these decisions were supposed to be made selectively by DRG.

Third, hospitals were expected to slow the rate of technological innovation and diffusion.<sup>112</sup> To the extent that a technology is specific to a particular DRG or to a relatively small group of DRGs, these actions too would occur selectively by DRG. Many technologies, however, are used across multiple DRGs. For these technologies, optimizing decisions would have to account for the incentive structure across a far greater number of categories. In either case, hospitals were expected to consider the relatively long-run effects of technological innovation and diffusion on productivity, with due concern for the extent to which innovations would be incorporated into future rates and the speed at which such incorporation would occur.<sup>113</sup> Because substitution among technologies can affect the length of stay, the number of services provided during the stay, and the amount and type of labor used, these optimizing decisions would also have to consider the impact of technological change on these other elements of cost.

Fourth and finally, hospitals were expected to control their wages and their mixes of types of labor. It is generally believed that hospitals hire in local labor markets, and PPS was designed so that rates depend in substantial part on the prevailing level of hospital wages within locally defined geographic areas.<sup>114</sup> Given this design, PPS was supposed to force hospitals to compete for labor. Each hospital would aim for an optimal mix of professional and nonprofessional labor, as well as an optimal mix of the types of labor within professional categories, again with due consideration for the other elements of production—the length of stay, the level of service intensity, and the use of alternative technologies. However, compared with the other elements of cost, neither the mix of capital and labor nor the mix of types of labor was expected to be as responsive to the rates for particular DRGs. Because much of this mix is fixed in the short-run, and because these decisions typically have implications for many different types of care, it was expected that optimal decisions would be

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two dimensions: (1) the number and types of intermediate products available to physicians and (2) the manner in which physicians package those products in the treatment of particular patients. Except where indicated, I use "intensity" in this latter sense.

112. This category is redundant with my usage of "service intensity." I include it as a separate category because of the differing uses of the latter term.

113. See, e.g., Frank A. Sloan et al., *Diffusion of Surgical Technology: An Exploratory Study*, 5 J. HEALTH ECON. 31, 37 (1986).

114. See 42 U.S.C.A. § 1395ww(d)(2)(C)(ii), (2)(H), (3)(E) (West 1992); see also *id.* § 1395ww(d)(10) (establishing the Medicare Geographic Classification Review Board to review the geographic classifications of hospitals, categories that are used in part to determine the wage rate applied to particular hospitals).

driven to a greater degree by the overall pool of money made available by Medicare, with due consideration for different levels of reimbursement for inpatient care, taken as a whole, and outpatient care, also taken as a whole. A wrinkle was added to this calculus because PPS has only recently begun to incorporate capital into prospective rates.<sup>115</sup> Accordingly, it was expected that hospitals would substitute capital for labor to take advantage of the fact that capital expenditures would continue to “pass through” as cost-based reimbursement. With regard to all of these process-of-care decisions, there were fears of “undertreatment” due to the use of fixed prospective rates. Given the use of per-case payments, it was hypothesized that such undertreatment would occur selectively by product line.

### C. *The Financing of Care*

Finally, with regard to the financing of care, our last category of predicted choice, hospitals were expected to act as “reimbursement-maximizing” firms. There were three major predictions. First, because the system is built on payments for “cases,” hospitals were expected to increase the number of “cases” by generating a greater number of admissions overall and by admitting, discharging and then readmitting some patients. They were also supposed to admit and to transfer selectively, cream-skimming the lucrative cases and turning away types of cases for which reimbursement was too low or the relationship between expected costs and reimbursement too uncertain.<sup>116</sup> Second, hospitals were expected to take advantage of the discretion in the classification system by coding discharges into more lucrative categories where possible—the phenomenon known as “DRG creep.” Third, hospitals were expected to take advantage of the facts that PPS is not an all-payer system and that substantial discretion remains in the accounting and charging practices used to allocate costs among different payers. Accordingly, hospitals were expected to shift as many costs as possible to payers without the market power or the will to defend themselves—most prominently the commercial insurance companies and to a lesser extent the Blues—or to charitable and other public sources of revenue.

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115. From the very beginning, Congress indicated its intent that capital costs be folded into the system. See Social Security Amendments of 1983, Pub. L. No. 98-21, § 601(a)(3), 97 Stat. 65, 149 (1983). Wrangling between Congress and HCFA led to numerous rounds of delay and study, with the result that transition toward a separate prospective payment system for capital-related costs began in fiscal year 1992. See Health Care Fin. Admin., Dep’t of Health & Hum. Servs., Prospective Payment System for Inpatient Hospital Capital-Related Costs, 56 Fed. Reg. 43,358 (1991).

116. As a rough cut, patients could be categorized into groups of the “mildly” or “severely” ill. See Joseph P. Newhouse, *Two Prospective Difficulties with Prospective Payment of Hospitals, or, It’s Better to Be a Resident Than a Patient With a Complex Problem*, 2 J. HEALTH ECON. 269 (1983). More differentiated means of dividing patients were also hypothesized. See Seidman & Frank, *supra* note 3, at 171-72.

## IV. The Actual Course of Hospital Behavior Under PPS

A. *The Site of Care*

Did the hospital organism make these rational choices?<sup>117</sup> Let us start with the site of care and follow the structure of the predictions detailed above. First, as summarized by Coulam and Gaumer, “[v]irtually all studies show a sharp shift in physician services away from the inpatient setting to the outpatient setting, according to a variety of different measures.”<sup>118</sup> Most of this change was due to the increased use of outpatient surgery, with one-third to one-half of the total attributable to lens procedures alone.<sup>119</sup> Some procedures like cataract surgery are relatively simple, generally thought to be overused, and good candidates for outpatient treatment.<sup>120</sup> They were thus targeted by the peer review organizations (PROs) and the subject of technological innovation making outpatient surgery a safe and effective possibility.<sup>121</sup> Additionally,

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117. Given space limitations, I do not attempt to canvass the enormous complication and controversy in the studies discussed immediately below. Instead, I discuss areas of general agreement and indicate some relevant difficulties and controversies. Two generalized caveats are worth noting. First, all conclusions depend upon the use of an adequate control for case mix, *see, e.g.*, Coulam & Gaumer, *supra* note 99, at 57; JACK HADLEY & STEPHEN ZUCKERMAN, DETERMINANTS OF HOSPITAL COSTS: OUTPUT, INPUTS, AND REGULATION IN THE 1980s 131-32 (1991), and the interpretation of case mix has been perhaps the most troubled area of PPS. *See* Frankford, *supra* note 13. Second, most of the data used in the studies derive from the very early years of PPS; those data may not be reflective of current behavior. Rates in the first two years were set relatively high due to a confluence of mistakes, direct political choices, and indirect political choices attributable to lax oversight of junior staff by more experienced officials. *See* Bruce C. Vladeck, *Medicare's Prospective Payment System at Age Eight: Mature Success or Midlife Crisis?*, 14 U. PUGET SOUND L. REV. 453, 456-57 (1991). Since those early years, however, the average rates have been lowered but with a multitude of loosening adjustments. Depending upon one's characterization, these adjustments have been accomplished to achieve equity among defined classes of hospitals or just to give pork to particular ones. *See* SMITH, *supra* note 18, at 69-72, 86-111, 234-37, 243-48. Cynics holding to the latter viewpoint invented a game “called ‘guess the hospital,’ in which professionals and technicians would try to infer from the statutory specifications which hospital in which county had been selected for governmental largess.” *Id.* at 110.

118. Coulam & Gaumer, *supra* note 99, at 58.

119. *See, e.g.*, Paul B. Ginsburg & Grace M. Carter, *Medicare Case-Mix Index Increase*, HEALTH CARE FINANCING REV., Summer 1986, at 51, 61-63; Susan I. DesHarnais et al., *Trends and Regional Variations in Hospital Utilization and Quality During the First Two Years of the Prospective Payment System*, 25 INQUIRY 374, 378 (1988); Viola Latta & Charles Helbing, *Medicare: Short-stay Hospital Services by Leading Diagnosis-related Groups, 1983 and 1985*, HEALTH CARE FINANCING REV., Winter 1988, at 79, 80; RUSSELL, *supra* note 1, at 27-29, 43-35; Stuart Guterman et al., *The First 3 Years of Medicare Prospective Payment: An Overview*, HEALTH CARE FINANCING REV., Spring 1988, at 67, 70. Overall there has been a surge in outpatient capacity. *See, e.g.*, RUSSELL, *supra* note 1, at 34.

120. For two attempts to identify surgical procedures that might fruitfully be shifted to outpatient care, *see* Ginsburg & Carter, *supra* note 119, at 51, 61-63; Noralou P. Roos & Jean L. Freeman, *Potential for Inpatient-Outpatient Substitution with Diagnosis-Related Groups*, HEALTH CARE FINANCING REV., Summer 1989, at 31.

121. *See, e.g.*, RUSSELL, *supra* note 1, at 27-29, 43-45.

some tests that had typically been performed upon admission the night before surgery were unbundled and provided on an outpatient basis prior to admission.<sup>122</sup>

Second, “[s]imple, unadjusted statistics for the early years of PPS show an increase in discharges to Medicare skilled nursing facility (SNF) care and in other measures of utilization.”<sup>123</sup> More sophisticated studies looking for a greater number of discharges to nursing care facilities across all DRGs failed to find them.<sup>124</sup> It is important to note, however, that studies concerned just with hip fractures found relatively shorter lengths of stay and concomitant increased use of nursing home care,<sup>125</sup> and one study found a greater number

122. See, e.g., *id.* at 32-33; Ashby & Altman, *supra* note 111, at 84 n.7. Preadmission services are complements to an inpatient stay. Consequently, some of these services might have vanished with the reduced number of admissions in the years after PPS was implemented. See Joyce A. Lanning et al., *Endogenous Hospital Regulation and Its Effects on Hospital and Non-Hospital Expenditures*, 3 J. REG. ECON. 137, 138, 143-44 (1991). Nevertheless, federal outlays may have actually increased because the remaining preadmission services were reimbursed under part B but still incorporated within the DRG rates. See, e.g., Jerry Cromwell & Dena Puskin, *Hospital Productivity and Intensity Trends: 1980-87*, 26 INQUIRY 366, 370, 379 (1989). Accordingly, in 1990 Congress enacted a prophylactic rule “expanding the DRG payment window” such that preadmission services would be deemed to be “operating costs of inpatient hospital services.” See Omnibus Reconciliation Act of 1990, Pub. L. No. 101-508, § 4003, 104 Stat. 1388, 1388-38 (codified at 42 U.S.C.A. § 1395ww(a)(4) (West 1992)).

123. Coulam & Gaumer, *supra* note 99, at 58; see, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM’N, MEDICARE AND THE AMERICAN HEALTH CARE SYSTEM: REPORT TO THE CONGRESS 107-08 (1992).

124. See Michael J. Long et al., *The Effect of PPS on Hospital Product and Productivity*, 25 MED. CARE 528, 532-34 (1987); RUSSELL, *supra* note 1, at 35 (table 3-4), 37-41; Cynthia Leibson et al., *Disposition at Discharge and 60-Day Mortality Among Elderly People Following Shorter Hospital Stays: A Population-Based Comparison*, 30 GERONTOLOGIST 316, 319 (1990); Kenneth G. Manton & Korbin Liu, *Recent Changes in Service Use Patterns of Disabled Medicare Beneficiaries*, HEALTH CARE FINANCING REV., Spring 1990, at 51, 59, 65; Kenneth G. Manton et al., *Changes in Health Service Use and Mortality Among U.S. Elderly in 1980-1986*, 2 J. AGING & HEALTH 131, 152 (1990). The researchers in Long et al., *supra*, studied the fifty most important DRGs. The analysis by Russell, which utilized a corrected version of the data in DesHarnais et al., *supra* note 119, as well as the analyses by Leibson and collaborators and by Manton and collaborators, all pertained to discharges in the aggregate. It should be noted that there are difficult questions of study design, particularly pertaining to controls for case mix and the availability of post-acute care in a local geographic area. See, e.g., Genevieve Kenney & John Holahan, *The Nursing Home Market and Hospital Discharge Delays*, 27 INQUIRY 73 (1990); Christine E. Bishop & Lisa C. Dubay, *Medicare Patient Access to Posthospital Skilled Nursing Facility Care*, 28 INQUIRY 345 (1991) (showing that the availability of post-discharge skilled nursing care cannot be measured by counting the number of beds per population but must also specify proxies for the willingness of facilities to provide care to Medicare beneficiaries).

125. See John F. Fitzgerald et al., *Changing Patterns of Hip Fracture Care Before and After Implementation of the Prospective Payment System*, 258 JAMA 218 (1987) [hereinafter Fitzgerald, *First Hip Fracture Study*]; John F. Fitzgerald et al., *The Care of Elderly Patients with Hip Fracture: Changes Since the Implementation of the Prospective Payment System*, 319 NEW ENG. J. MED. 1392 (1988) [hereinafter Fitzgerald, *Second Hip Fracture Study*]; Meghan B. Gerety et al., *Impact of Prospective Payment and Discharge Location on the Outcome of Hip Fracture*, 4 J. GENERAL INTERNAL MED. 388 (1989); see also Michael J. Long et al., *Were Hospitals Selective in Their Product and Productivity Changes? The Top 50 DRGs After PPS*, 24 HEALTH SERVICES RES. 615, 631 (1989); PROSPECTIVE PAYMENT ASSESSMENT COMM’N, *supra* note 103, at 30-31; Peter Holt & Carol H. Winograd, *Prospective Payment and the Utilization of Physical Therapy Service in the Hospitalized Elderly*, 80 AM. J. PUB. HEALTH 1491, 1493 (1990); PROSPECTIVE PAYMENT ASSESSMENT COMM’N, MEDICARE PROSPECTIVE PAYMENT AND THE AMERICAN HEALTH CARE SYSTEM: REPORT TO THE CONGRESS 84 (1990). The findings in Robert M. Palmer et al., *The Impact of the Prospective Payment System on the Treatment of Hip Fractures in the Elderly*, 149 ARCHIVES INTERNAL MED. 2237 (1989), are somewhat contradictory but probably explicable due to the different types of hospitals studied. Indeed, many of these studies used very small sample sizes,

of discharges to nursing homes for the five most important Medicare DRGs, particularly for hip procedures, pneumonia, and stroke.<sup>126</sup> In contrast, overwhelming evidence shows that across many DRGs, there occurred a sharp increase in both discharge planning and the use of home health care services.<sup>127</sup> Finally, the number and use of exempt facilities and distinct-part units, particularly the latter, increased greatly.<sup>128</sup> In particular, psychiatric discharges evidenced more substantial responsiveness to financial incentives than did surgical and medical discharges, as shown by much greater declines in length of stay among psychiatric patients than among medical and surgical patients,<sup>129</sup> and by the fact that different reimbursement structures evoked

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and the results are therefore not generalizable. For a general discussion of the factors—such as age, sex, race, severity of illness, and the availability and substitutability of alternative services—associated with the use of post-acute care for hip fractures, see PROSPECTIVE PAYMENT ASSESSMENT COMM’N, *supra* note 123, at 135-38.

126. See Michael A. Morrissey et al., *Medicare Prospective Payment and Posthospital Transfers to Subacute Care*, 26 MED. CARE 685, 691-93, 696 (1988); see also Frank D. Gianfrancesco, *Prospective Payment System and Other Effects on Post-Hospital Services*, HEALTH CARE FINANCING REV., Winter 1990, at 37 (similar findings for stroke and hip replacement but not for pneumonia). With many fewer controls, the researchers in Long et al., *supra* note 125, at 630-31, found an increased number of discharges to nursing facilities for stroke and hip procedures but no change or slight decreases for heart failure with shock, pneumonia, and chronic obstructive pulmonary disease. The latter did not specify their confidence level.

Although Morrissey and collaborators found no statistically significant decrease in average length of stay for the patients in these DRGs discharged to nursing facilities, this apparent anomaly—a greater number of discharges to nursing care facilities without an associated decline in length of stay—is probably explained by substitution between discharges to nursing homes and discharges to home or to home health care. Some patients who would have been discharged to nursing care before PPS continued to be discharged to this type of sub-acute care but earlier in their stay—for example, instead of being discharged on day 16, they were discharged on day 13. Some patients who before PPS were discharged home or to home health care after a longer stay—say day 18—were instead discharged earlier—say day 15—but to nursing facilities, a different destination. Therefore, there was an overall increase in the number of discharges to nursing facilities, but in terms of the average length of stay for those discharges, the two effects offset. See Morrissey et al., *supra*, at 694, 697.

127. See Coulam & Gaumer, *supra* note 99, at 58-59. These studies could be improved by controlling for the relationship, if any, between the discharging hospital and the second provider. See *supra* note 109 and accompanying text. None of the studies concerning discharge to a post-acute care provider utilized such a control, in part because data were all drawn from inpatient records and because neither those records nor others traced patients through the entire episodes of care. See, e.g., Coulam & Gaumer, *supra* note 99, at 71-72.

128. See, e.g., James M. Hatten & David A. Gibson, *Medicare Discharges by Facility Status Under the Prospective Payment System*, HEALTH CARE FINANCING REV., Fall 1987, at 97; Allen W. Heinemann et al., *Prospective Payment for Acute Care: Impact on Rehabilitation Hospitals*, 69 ARCHIVES PHYSICIAN MED. REHABILITATION 614 (1988); Marc P. Freiman, *Reimbursement Decisions for Hospital Services: The Case of Psychiatric Units under Medicare*, 26 INQUIRY 399 (1989); Susan DesHarnais et al., *How the Medicare Prospective Payment System Affects Psychiatric Patients Treated in Short-Term General Hospitals*, 27 INQUIRY 382 (1990); PROSPECTIVE PAYMENT ASSESSMENT COMM’N, *supra* note 109, at 100. There is substantial evidence that a hospital sought an exemption for a psychiatric unit when its reimbursement under TEFRA, the applicable scheme, was expected to be higher than its payments under PPS. See Lave et al., *supra* note 109; Judith R. Lave et al., *The Early Effects of Medicare's Prospective Payment System on Psychiatry*, 25 INQUIRY 354, 355-56 (1988); Freiman, *supra*.

129. See Frank et al., *supra* note 90, at 17-19; Grazier & McGuire, *supra* note 90, at 90-93; Stephen F. Jencks et al., *Evidence on Provider Response to Prospective Payment*, 25 MED. CARE 37, 40-41 (Supp. 1987); Lave & Frank, *Factors Affecting Medicaid Patients' Length of Stay in Psychiatric Hospitals*, *supra* note 90, at 60-64; Lave & Frank, *Hospital Supply Response to Prospective Payment*, *supra* note 90, at 16-17. For methodological reasons, the most rigorous studies of the effects of PPS on psychiatric lengths of stay utilize discharges from scatterbeds. Given that more complex cases are treated in psychiatric units, it is

disparate changes in length of stay among the different beds and units to which they pertain.<sup>130</sup> In none of these areas concerning the reorganization of the medical division of labor between organizational types has there been a documented, discernible adverse effect on quality, at least from well-designed studies controlling for severity of illness, patient demographics or both.<sup>131</sup>

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possible that lengths of stay in those units declined less than those for medical (and perhaps surgical) DRGs. See Frank et al., *supra* note 90, at 6-9, 18-19; see also Lave et al., *supra* note 128, at 356-57. Because behavioral responses in psychiatric units are confounded by the self-selection involved in obtaining exemptions, this question is difficult to answer. See *id.* However, evidence concerning the impact of different Medicaid reimbursement schemes indicates that lengths of stay in units, like scatterbeds, are more responsive to financial incentives than medical and surgical diagnoses (although one must be careful about generalizing from effects on Medicaid patients and the facilities that treat them). See Richard G. Frank & Judith R. Lave, *The Effect of Benefit Design on the Length of Stay of Medicaid Psychiatric Patients*, 21 J. HUM. RESOURCES 321, 328, 331-36 (1986); Lave & Frank, *Factors Affecting Medicaid Patients' Length of Stay in Psychiatric Hospitals*, *supra* note 90, at 64. The fact that lengths of stay in units did not fall as much as those for scatterbeds is probably a reflection of the actual or anticipated level of reimbursement for the different sites. See also Grazier & McGuire, *supra* note 90, at 91 (finding that length of stay in an exempted psychiatric unit exhibited very strong decline in reaction to increased supply-side cost sharing).

130. See Frank et al., *supra* note 90, at 6-16; Grazier & McGuire, *supra* note 90, at 90-93; Marc P. Freiman et al., *Provider Response to Medicare's PPS: Reductions in Length of Stay for Psychiatric Patients Treated in Scatter Beds*, 26 INQUIRY 192 (1989); Lave et al., *supra* note 128, at 356-60; Lave & Frank, *Hospital Supply Response to Prospective Payment*, *supra* note 90, at 14-19; cf. Frank & Lave, *supra* note 129; Lave & Frank, *Factors Affecting Medicaid Patients' Length of Stay in Psychiatric Hospitals*, *supra* note 90 (studying Medicaid discharges and correlating some of the variations among lengths of stay with type of Medicaid coverage).

131. This conclusion cuts across both small- and large-sample studies, and studies measuring quality in terms of process, outcome, or both. See, e.g., Gerety et al., *supra* note 125 (small-sample, outcome-based (ambulatory status, mortality and continued institutionalization) study of hip fractures); Palmer et al., *supra* note 125 (same); Michael B. Flynn et al., *Impact of Diagnosis-Related Groups on the Quality of Postoperative Care of Patients with Neck Dissections*, 160 AM. J. SURGERY 356 (1990) (small-sample study correlating decreases in length of stay after head and neck cancer surgery with variation in the extent of the operation and postoperative complications); Katherine L. Kahn et al., *Measuring Quality of Care with Explicit Process Criteria Before and After Implementation of the DRG-Based Prospective Payment System*, 264 JAMA 1969 (1990) (large-sample, process-based study of congestive heart failure, myocardial infarction, pneumonia, cerebrovascular accident, and hip fracture); Katherine L. Kahn et al., *Comparing Outcomes of Care Before and After Implementation of the DRG-Based Prospective Payment System*, 264 JAMA 1984 (1990) (large-sample, outcome-based (mortality and continued institutionalization) study of congestive heart failure, myocardial infarction, pneumonia, cerebrovascular accident, and hip fracture); Leibson et al., *supra* note 124 (small-sample, outcome-based (mortality) study of all discharges); Manton & Liu, *supra* note 124, at 59-65 (large-sample, outcome-based (mortality) study of all discharges); Manton et al., *supra* note 124 (large-sample, outcome-based (mortality) study of discharges to nursing homes); Wayne A. Ray et al., *Mortality Following Hip Fracture Before and After Implementation of the Prospective Payment System*, 150 ARCHIVES INTERNAL MED. 2109 (1990) (large-sample, outcome-based (mortality) study of hip fractures). The contrary findings in Fitzgerald's small-area hip studies, showing decreased ambulation at discharge coupled with a higher likelihood of longer post-discharge institutionalization, see Fitzgerald, *First Hip Fracture Study*, *supra* note 125; Fitzgerald, *Second Hip Fracture Study*, *supra* note 125, are probably attributable to failure to control adequately for changed severity of illness, see Ray, *supra*, at 2113, differences in the quality of care provided in the post-acute-care facilities, see Gerety et al., *supra* note 125, at 390-91, as well as the limited utility of the outcome measure used. See Fitzgerald, *Second Hip Fracture Study*, *supra* note 125, at 1396. The findings of a greater number of deaths in nursing homes in both large-sample, see Mark A. Sager et al., *The Impact of Medicare's Prospective Payment System on Wisconsin Nursing Homes*, 257 JAMA 1762 (1987); Mark A. Sager et al., *Changes in the Location of Death After Passage of Medicare's Prospective Payment System*, 320 NEW ENG. J. MED. 433 (1989), and small-sample studies, see Yvonne M. Lyles, *Impact of Medicare Diagnosis-Related Groups (DRGs) on Nursing Homes in the Portland, Oregon Metropolitan Area*, 34 J. AM. GERIATRIC SOC'Y 573 (1986), seem explicable in large part by idiosyncracies in the pre-PPS base year used and the failure to stratify patients by age, sex, and cause of death. See Manton et al., *supra* note 124, at 132-36, 139-55. Other factors contributing to



Moreover, the evidence from the most well-designed study indicates that both the timing and destination of discharge were driven not by the net profit consequences of particular DRGs but by the overall pressure PPS exerted to reduce length of stay, interacting with careful medical consideration of the medical benefits of alternative institutional structuring for an episode of care.<sup>132</sup>

The third point regarding site of care, and the most important one for my purposes, is the fact that there is little or no evidence that hospitals endeavored to specialize as predicted. Coulam and Gaumer summarize:

Hospitals diversified, rather than specialized, after PPS began, in the sense that the number of hospitals that performed procedures for Medicare patients increased. Apparently, competitive considerations, notably fears about losing market share, have been at work. Meanwhile, for select procedures studied by ProPAC, the volume at the average hospital performing the procedures increased. But this increase was largely the result of an overall increase in procedure volume, rather than a consolidation of where the procedures were performed.<sup>133</sup>

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those findings include the relatively recent and growing belief that it is more humane to die at nonhospital sites (for example, in hospices, nursing homes, and homes), see Leibson et al., *supra* note 124, at 321; Manton et al., *supra* note 124, at 143-46; Alma McMillan et al., *Trends and Patterns in Place of Death for Medicare Enrollees*, HEALTH CARE FINANCING REV., Fall 1990, at 1, 6, and the substitution of home health care and community-based services for nursing home care, which resulted in a more severely ill nursing home population. See Lyles, *supra*, at 577. Moreover, the fact that a patient has been discharged to a nursing home for terminal care does not necessarily indicate that the care provided in the hospital or the discharge was inappropriate. See, e.g., Manton et al., *supra* note 124, at 133-34.

132. See generally Manton et al., *supra* note 124. These researchers studied, among other things, length of stay, mortality rates, and mortality location when death occurred from cancer, stroke, heart disease, and septicemia. These diseases were chosen because they range, in the order listed, from the relatively chronic and incurable to the relatively acute and curable. See *id.* at 132, 143-46. The findings are important:

The trends for the four causes of death are very different. There is little shift in the location of septicemia deaths, with a large shift in stroke deaths, that is, stroke deaths increasingly occurring in institutions. Cancer deaths shift more to in-home locations, possibly reflecting the effects of hospice programs—both Medicare-funded and private. Thus it appears that causes of death implying more acute morbidity show less of a shift from hospital inpatient facilities than do deaths from chronic conditions. Overall this suggests that hospitals are being medically discriminating in selecting patients to be discharged earlier and to other forms of care . . . .

*Id.* at 145. It should be stressed again that this conclusion does *not* link length of stay and discharge destination to the differentiated payment rates for particular DRGs. Rather, it indicates that physicians were exercising medical judgment concerning the clinical appropriateness of the timing and type of discharge destination, with a generalized attempt to reduce length of stay concomitant with PPS's generalized effort to obtain such a reduction.

In the language omitted from the quotation above, the authors claimed that the financial incentives provided by outlier payments have been important in preserving appropriate care. See *id.* at 145-46. The structure of the outlier payment scheme has been very controversial. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, REPORT AND RECOMMENDATIONS TO THE CONGRESS 95-107 (1992) [hereinafter PROSPECTIVE PAYMENT ASSESSMENT COMM'N, 1992 MARCH REPORT]; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, REPORT AND RECOMMENDATIONS TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 18, 40-42, 77-83 (1989). Because the authors make no reference to that structure, the claimed linkage between outlier payments and the timing and destination of discharge is unsupported.

133. Coulam & Gaumer, *supra* note 99, at 63; see, e.g., SYSTEMETRICS/MCGRAW-HILL, AN ANALYSIS OF HOSPITAL SENSITIVITY TO DRG PRICE VARIATION IN THE MEDICARE PROSPECTIVE PAYMENT SYSTEM, TECHNICAL REPORT E-88-02, at 4-6, 27, 33-46 (1988) (report prepared for the Prospective Payment

## B. *The Process of Care*

Indeed, this theme can carry us through the large literature concerning the selection and organization of resources for use during a patient's stay. All observers agree that average length of stay fell during the first two years of PPS and then stabilized,<sup>134</sup> although there is tremendous controversy concerning the magnitude of the change, the extent to which it was caused by PPS or would have happened anyway, whether it was a one-time or continuing affair, and whether additional slack exists that could be removed by exerting greater force on all or some types of hospitals.<sup>135</sup> There is one study finding de-

Assessment Commission); PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 103, at 19-23, 112-13. Farley and Hogan have recently purported to find evidence of specialization. See Dean E. Farley & Christopher Hogan, *Case-Mix Specialization in the Market for Hospital Services*, 25 HEALTH SERVICES RES. 757 (1990). Their analysis, however, is viciously circular. They define a hospital's degree of specialization "as the extent to which its case-mix proportions deviate from what might be considered 'normal.'" *Id.* However, they used the DRG classification system both to create their "normal" case mix and the particular hospital case mixes compared against this norm. Thus, their findings do not tell us about specialization. Rather, they tell us about the manner in which cases are classified within the DRGs. Put somewhat differently, they equate "efficiency" with changes in the structure of DRG-based case mix. It is circular, however, to use a DRG-based classification system to analyze the impact of the DRG-based classification system.

134. As Coulam and Gaumer summarize, the "introduction of PPS is associated with a brief, but (compared with historical norms) large, reduction in [length of stay], after which average [length of stay] stabilizes or increases slightly." Coulam & Gaumer, *supra* note 99, at 55. Statistics unadjusted for changing patterns of admissions and case mix indicate that length of stay has been creeping upward again. See PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 125, at 66.

135. See Coulam & Gaumer, *supra* note 99, at 47-48, 53-58. Compare, e.g., Feder et al., *supra* note 96 and Hadley et al., *supra* note 96 (finding one-time reduction in length of stay in response to the shock of new or anticipated incentives) with Craig G. Coelen, *Effects of Medicare's Prospective Payment System on the Financial Performance of Hospitals 13-15* (June 1991) (unpublished working paper, Abt Associates) (implying continuing effect over time). Conclusions here are very difficult, because the effects of PPS on length of stay are difficult to separate from such factors as changed admission patterns, particularly due to site-of-care substitutions to outpatient and exempt facilities; other types of changes in case mix; hospitals' coding behavior; and the activities of the PROs, other payers and other regulators. A warning issued by Newhouse and Byrne is particularly striking because of its message that empirical conclusions must cautiously consider these factors. Their article raised the possibility that acute-care facilities shifted many of their long-stay patients to exempt facilities. If this hypothesis were correct, the decline in average length of stay, discussed in often-cited studies, would merely represent phantom savings—a shell game in which costs were shifted from PPS to non-PPS reimbursement. See Newhouse & Byrne, *supra* note 109. To my knowledge, the hypothesis that acute-care facilities shifted long-stay cases to exempt rehabilitation hospitals and units and to long-term-care hospitals has not been systematically studied, although there has clearly been an increase in the use of such exempt facilities, see *supra* note 128 and accompanying text, and even though some evidence indicates that patients in rehabilitation and long-term-care facilities are more severely ill than before PPS. See Heinemann et al., *supra* note 128; Norman V. Carroll & W. Gary Erwin, *Effect of the Prospective-Pricing System on Drug Use in Pennsylvania Long-Term-Care Facilities*, 47 AM. J. HOSP. PHARMACY 2251 (1990) [hereinafter Carroll & Erwin, *Long-Term-Care Facilities in Pennsylvania*]. But see Norman V. Carroll & W. Gary Erwin, *Patient Shifting as a Response to Medicare Prospective Payment*, 25 MED. CARE 1161 (1987) [hereinafter Carroll & Erwin, *Long-Term-Care Facilities in Georgia*]. In contrast, the hypothesis of such case shifting has been tested for psychiatric discharges, which have comprised roughly 60% of the combined discharges from exempt hospitals and units (excluding children's hospitals), see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, 1992 MARCH REPORT, *supra* note 132, at 24 (table 1-9), and just over 50% of the Medicare expenditures for those combined discharges. See John C. Langenbrunner et al., *Developing Payment Refinements and Reforms Under Medicare for Excluded*

creased lengths of stay in the medical intensive-care units of three California community hospitals,<sup>136</sup> but a study utilizing a wider data base found no statistically significant change in the use of intensive care.<sup>137</sup> In sum, "hospitals were not selective in their reductions: [length-of-stay] reductions appear to have been made across the board, rather than selectively—that is, the reductions are not concentrated in specific DRGs or specific age, race, or sex categories."<sup>138</sup>

Similarly, there may have been productivity gains, but the magnitude of those gains and the reasons for their occurrence are controversial. For one thing, there is the difficulty of accounting for site-of-care substitution. Not only is it difficult to determine the amount of this substitution, but judgments concerning productivity gains or losses therefrom depend upon extremely complex comparisons between, on the one hand, the costs and quality of the inpatient care diverted, and, on the other, the costs and quality of the care provided in the locations to which the inpatient care has been shifted.<sup>139</sup> With regard to productivity more generally, there are complex problems of measurement. Alone, simple statistics regarding the number and types of services are meaningless.<sup>140</sup> Consequently, there must be recourse to proxies tracking the use of select services and the rate of technological innovation and diffusion,<sup>141</sup>

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*Hospitals*, HEALTH CARE FINANCING REV., Spring 1989, at 91, 94 (table 3). Although the number of discharges from scatterbeds and nonexempt units to exempt psychiatric and rehabilitation hospitals and units did increase, see DesHarnais et al., *supra* note 128, at 387 (table 3), the available evidence indicates that the number of long-stay patients in exempt facilities did not. See Lave et al., *supra* note 128, at 360-61.

136. See S. Allison Mayer-Oakes et al., *The Early Effect of Medicare's Prospective Payment System on the Use of Medical Intensive Care Services in Three Community Hospitals*, 260 JAMA 3146, 3148-49 (1988). Happily, there was no finding of increased mortality. It is obviously dangerous to generalize from a study of this size.

137. See Frank A. Sloan et al., *Medicare Prospective Payment and the Use of Medical Technologies in Hospitals*, 26 MED. CARE 837, 842-44 (1988).

138. Coulam & Gaumer, *supra* note 99, at 56.

139. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, TECHNICAL APPENDIXES TO THE REPORT AND RECOMMENDATIONS TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 17-21 (1986).

140. See, e.g., Ashby & Altman, *supra* note 111, at 81.

141. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 139, at 11-13 (discussing the need to study factors other than just the use of new services and technologies); Daniel Dore, *The Effect of the Medicare Prospective Payment System on the Utilization of Physical Therapy*, 67 PHYSICAL THERAPY 964 (1987) (studying the inpatient use of physical therapy); Fitzgerald et al., *Second Hip Fracture Study*, *supra* note 125, at 1393-94 (studying the type of hip surgery performed and the inpatient use of physical therapy); Peter D. Jacobson & John Rosenquist, *The Introduction of Low-Osmolar Contrast Agents in Radiology: Medical, Economic, Legal, and Public Policy Issues*, 260 JAMA 1586 (1988) (studying the introduction of low-osmolar contrast media for certain radiologic procedures); Long et al., *supra* note 124, at 534-35 (studying the average length of stay as a proxy for routine care, and the average number of chest x-rays, drugs and other laboratory and diagnostic tests, as a proxy for the provision of ancillaries); Long et al., *supra* note 125, at 625-26 (same); Mayer-Oakes et al., *supra* note 136 (studying the use of medical intensive-care units); Sloan et al., *supra* note 137 (studying the use of defined intensive-care facilities, various non-coded "little ticket" nonsurgical procedures, and 23 selected nonsurgical and therapeutic procedures which spanned various clinical fields and were at different stages of a "diffusion process"); Earl P. Steinberg et al., *Determinants of Acquisition of MR Imaging Units in an Era of Prospective Payment*, 168 RADIOLOGY 265 (1988) (studying the introduction of magnetic resonance imagers); Palmer et al., *supra* note 125, at 2239; Holt & Winograd, *supra* note 125 (studying the use of inpatient physical therapy).

or to various composites comprised of the costs of nonlabor inputs, the rates of employment, the levels of wages and benefits, and the numbers and qualitative types of services per admission ("intensity"), which together comprise the largest component of the overall "input mix" or "operating costs."<sup>142</sup>

These measures indicate that in the first two years of PPS, there was a sharp decline in non-medical employment and a decrease in the level of wage and benefit inflation (even as compared with the declining pace of inflation in the general economy).<sup>143</sup> There was also, however, an increasing level of skill mix, attributable (in declining order of significance) to the substitution of RNs for LPNs, and the substitution of more highly trained occupational therapists and physical therapists for less highly trained personnel.<sup>144</sup> Because service

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Sometimes these services are conceptualized as inputs and sometimes as intermediate products.

142. Stated generally, the studies of productivity differ along two dimensions. First, some attempt to measure the costs of an aggregate product, while others try to separate costs into multiple products. Second, studies of multiple products differ in that some rely upon the averaging used in the cost-accounting practices, while others try to derive estimations of marginal cost. See generally HADLEY & ZUCKERMAN, *supra* note 117, at 41-108 (discussing the different methods and the problems of measurement raised by each). ProPAC, for example, has not used constructs of marginal cost and has developed an aggregate productivity measure, defined as the ratio of case-mix-adjusted admissions against full-time-equivalent employees, holding the skill mix of labor constant. ProPAC has also developed measures of the two components of aggregate productivity: (1) a proxy for the efficiency by which hospital employees produce intermediate goods—"intermediate productivity"—which consists of comparisons over time of the ratio of skill-mix-adjusted labor to hospital charges, adjusted by an inflation index to remove the effect of hospitals' discretionary pricing decisions; and (2) a case-mix-adjusted measure of the number and types of the intermediate goods used by physicians across all admissions—"intensity of services." See, e.g., Ashby & Altman, *supra* note 111, at 80-87. See generally PROSPECTIVE PAYMENT ASSESSMENT COMM'N, TECHNICAL APPENDIXES TO THE REPORT AND RECOMMENDATIONS TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES 39-40 (1987). For somewhat different proxies, see Jerry Cromwell & Gregory C. Pope, *Trends in Hospital Labor and Total Factor Productivity, 1981-86*, HEALTH CARE FINANCING REV., Summer 1989, at 39, 39-43.

143. See Cromwell & Pope, *supra* note 142, at 46-47; Cromwell & Puskin, *supra* note 122, at 372-74, 378-79; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 109, at 65-66; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 56-57; cf., e.g., Thorpe & Phelps, *supra* note 84, at 162-63 (attributing cost savings obtained by New York rate-setting officials to reductions in non-medical staff, with no substitution of LPNs for RNs). The decline in employment, however, did not match the contemporaneous decline in service intensity, with the result that relatively *more* workers were producing fewer services, and intermediate productivity declined. See, e.g., Ashby & Altman, *supra* note 111, at 86.

144. See, e.g., Cromwell & Pope, *supra* note 142, at 46-47; HADLEY & ZUCKERMAN, *supra* note 117, at 11-12, 14-15, 150-57; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 109, at 66; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 56-57. Underneath these averages, rural and urban hospitals acted in different directions. For reasons that are not clear, urban hospitals substituted RNs for LPNs, and rural hospitals substituted in the opposite direction. See, e.g., HADLEY & ZUCKERMAN, *supra* note 117, at 155-57, 160-61. Case studies have indicated that nursing skill mix is largely attributable to idiosyncratic local supply characteristics. In the rural areas studied, the availability of nursing services was relatively stable, with minor differences across different localities. By contrast, the urban hospitals studied were somewhat at the mercy of such factors as the number of nursing schools, whether there had been a recent hospital closure, and the like. See LEWIN-ICF, AN EVALUATION OF WINNERS AND LOSERS UNDER MEDICARE'S PROSPECTIVE PAYMENT SYSTEM, EXTRAMURAL REPORT E-92-02, at E-5, 4-9 to 4-10, 5-32 to 5-34 (1992) (report prepared for the Prospective Payment Assessment Commission). More generally, Lewin-ICF found that "the county or MSA-level data sets that are available nationally do not adequately characterize the micro-environments faced by the hospitals' managers and physicians." *Id.* at 4-12. This finding is very disturbing, given that crucial payment features—for example, the assignments to rural and urban categories and the derivation and application of the local wage adjustments—depend upon those data sets, as do numerous assessments of PPS.

intensity also decreased somewhat in this period, the combined reduction in non-medical employment and decreased intensity—albeit spread over a much smaller admissions base—added up to a net gain in aggregate productivity.<sup>145</sup> In later years, however, due to generous payments in the first two years of PPS, the rate of wage and benefit inflation started to rise again, as did, moreover, the levels of employment and the intensity of services. Indeed, the latter trend swamped earlier productivity gains, although there was some stabilization in the period from 1988 to 1991.<sup>146</sup> With regard to the rate of technological innovation and diffusion, there seems to have been no generalized effect,<sup>147</sup> but there is at least one very well-studied instance in which the development and use of a new technology has been impeded by the rate structure.<sup>148</sup> However, because the influx of technology stems in part from regulators' decisions regarding the means of incorporating new technologies into the DRG rates (as well as expectations thereof), the significance of PPS's impact is open to dispute, with alternative assessments whether there has been benefit or harm.<sup>149</sup> Finally, there has been an immense surge in capital expenditures,

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145. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 109, at 66-69; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 57-59; Ashby & Altman, *supra* note 111, at 81-82, 85-88.

146. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 109, at 66-69; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 57-59; Ashby & Altman, *supra* note 111, at 81-82, 85-88; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, REPORT AND RECOMMENDATIONS TO THE CONGRESS 68-69 (1993). Measuring long-run marginal cost from 1980 through 1986, Hadley & Zuckerman report a similar pattern. See HADLEY & ZUCKERMAN, *supra* note 117, at 116. Data from 1991 are the last discussed in ProPAC's reports.

147. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, MEDICARE PROSPECTIVE PAYMENT AND THE AMERICAN HEALTH CARE SYSTEM: REPORT TO CONGRESS 20-23 (1988); PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 103, at 16-17; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 125, at 70-72; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 109, at 91-92. *But see* Sloan et al., *supra* note 137, at 848-49. However, the reliance on statistical averages across large samples masks differential effects. For example, one study based on a relatively small but well-designed sample correlates the adoption of new technologies with larger hospital size, higher occupancy rates, preexisting ownership of high-tech equipment, and the ability to predict the future course of PPS rates. See Steinberg et al., *supra* note 141; see also CODMAN RESEARCH GROUP, THE RELATIONSHIP BETWEEN DECLINING USE OF RURAL HOSPITALS AND ACCESS TO INPATIENT SERVICES FOR MEDICARE BENEFICIARIES IN RURAL AREAS, TECHNICAL REPORT #E-90-01, at 5, 18-20 (1990) (report prepared for the Prospective Payment Assessment Commission). These findings are consistent with the growing evidence that under PPS, many of the quality-rich hospitals have gotten richer, and the poor poorer, particularly correlating with success (and failure) to adapt to local circumstances and to the rate structures. See, e.g., Jerry Cromwell & Russel Burge, The Impact of Medicare Prospective Payment on Hospital Profits 1-2, 4-7 (August 1991) (draft report, Health Economics Research, Inc.); PROSPECTIVE PAYMENT ASSESSMENT COMM'N, WINNERS AND LOSERS UNDER PPS, INTRAMURAL REPORT I-92-01 (1992). These last two studies are particularly fruitful because they specify proxies for hospitals' expectations regarding, and organizational adaptability to, the rates, rather than just correlating the rates to observed behavior and then attempting to infer generalized expectations. See, e.g., HADLEY & ZUCKERMAN, *supra* note 117, at 31, 79-80, 135-38; Coelen, *supra* note 135, at 5-6.

148. See, e.g., Nancy M. Kane & Paul D. Manoukian, *The Effect of the Medicare Prospective Payment System on the Adoption of New Technologies: The Case of Cochlear Implants*, 321 NEW ENG. J. MED. 1378 (1989). For recent discussions of the benefits of cochlear implants, see Thomas Balkany, *A Brief Perspective on Cochlear Implants*, 328 NEW ENG. J. MED. 281 (1993); Noel L. Cohen et al., *A Prospective, Randomized Study of Cochlear Implants*, 328 NEW ENG. J. MED. 233 (1993).

149. See generally PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 139, at 82-86; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 142, at 127-36.

but mainly in the construction of hospital outpatient departments and stand-alone ambulatory and exempt-care facilities, the productivity of which is again disputable.<sup>150</sup>

Indeed, the significance of all these trends is unclear because no good benchmarks are available from comparisons with other industries. Without such benchmarks it is difficult to judge, first, the productivity of professional labor, the most important component of hospital operating costs, second, the significance of patterns of technological innovation and diffusion, all of which are necessarily linked to decisions made in setting the payment rates, and third and crucially, the productivity of the practice patterns by which physicians link goods, services, and technology.<sup>151</sup> In sum, while many believe that PPS, taken as a whole, has increased the productivity of the average inpatient stay, there is little agreement on the questions of how, why, and where. Particularly in the absence of good outcome measures,<sup>152</sup> at best one can conclude that the production of intermediate goods is somewhat more efficient<sup>153</sup> but that intensity of services has continued its historical pattern of increase, broken only by a brief respite during the first two years of PPS.<sup>154</sup> Put differently, during an inpatient stay that is now on average shorter than before PPS, "the average hospital worker is, in fact, turning out more services than ever."<sup>155</sup> Given that intermediate goods are more efficiently produced while case-mix-adjusted service intensity has been moving upward again, continuing cost inflation in

150. See generally PROSPECTIVE PAYMENT ASSESSMENT COMM'N, 1992 MARCH REPORT, *supra* note 132, at 31, 56-63; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, OUTPATIENT PAYMENT POLICY REFORM: INTERIM CONGRESSIONAL REPORT (1992). Another problem of evaluation is the fact that until recently, PPS reimbursed capital as a pass-through. See *supra* note 115 and accompanying text. There is general consensus that hospitals took advantage of this feature of the reimbursement environment by substituting capital expenditures for some noncapital ones and by altering their accounting techniques so as to classify more costs as capital. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 21, at 9; HADLEY & ZUCKERMAN, *supra* note 117, at 150.

151. See, e.g., Frankford, *supra* note 13; see also HADLEY & ZUCKERMAN, *supra* note 117, at 70-71, 76-81, 97-99, 104-05, 129-30; Thorpe & Phelps, *supra* note 84, at 162-63. There are obviously fruitful comparisons by which to judge the efficiency by which many intermediate goods, such as laundry, are produced. At this point it should be absolutely clear that judgments concerning productivity are evaluative not just technical.

152. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 21, at 27-30; HADLEY & ZUCKERMAN, *supra* note 117, at 131-32; Coulam & Gaumer, *supra* note 99, at 65-69; Ashby & Altman, *supra* note 111, at 84; LEWIN-ICF, *supra* note 144, at 5-40. A study of the issues involved in the introduction of low-osmolar contrast media, a very expensive new imaging contrast technology, carefully frames the evaluative issues, although it merely assumes away the difficult questions about social choice in its unquestioning reliance on utilitarian ethics. See Jacobson & Rosenquist, *supra* note 141, at 1590.

153. See, e.g., Cromwell & Pope, *supra* note 142, at 48-50; Cromwell & Puskin, *supra* note 122, at 372-79; Ashby & Altman, *supra* note 111, at 86-87. Even this conclusion, however, is dubious, for the latest evidence indicates a sharp decline. See PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 146, at 69.

154. See, e.g., Cromwell & Puskin, *supra* note 122, at 372, 375; Ashby & Altman, *supra* note 111. There are, of course, disparate productivity gains and losses among different hospitals underneath these averages. See, e.g., Cromwell & Puskin, *supra* note 122, at 376-77; Coelen, *supra* note 135.

155. Ashby & Altman, *supra* note 111, at 87.

hospitals is attributable to the practice patterns of physicians, not the efficiency of the laundry service.<sup>156</sup>

Therefore, it appears that “hospitals” are not generally “controlling” their physicians’ packaging habits: “[W]hile hospitals have become more efficient in producing the services their medical staffs elect to provide, in terms of overall productivity of inpatient care, the system appears to continue becoming less cost effective and therefore more expensive.”<sup>157</sup> Moreover, in the few studies attempting to measure, not the productivity of PPS as a whole, but the productivity of particular DRGs, there are explicit findings that hospitals have not identified particular DRG-based product lines amenable to more efficient production.<sup>158</sup> Except for the few DRGs discussed above, there is no evidence

156. *See, e.g., id.* at 87-88.

157. Ashby & Altman, *supra* note 111, at 87-88. For that reason, ProPAC has continually expressed reservations regarding an incentive structure that places force on the hospital organism. *See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM’N, REPORT AND RECOMMENDATIONS TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 57-58 (1988); PROSPECTIVE PAYMENT ASSESSMENT COMM’N, REPORT AND RECOMMENDATIONS TO THE U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES 25-28 (1990).* In the words of Ashby and Altman, “[t]he most promising avenue for major gains appears to be quality and utilization review efforts or organizational changes designed to help clinicians practice medicine in such a way that fewer tests, procedures, and perhaps days of care are required to produce optimal patient care outcomes.” Ashby & Altman, *supra* note 111, at 90 (footnote omitted); *see, e.g.,* Stuart Altman et al., *The Need for a National Focus on Health Care Productivity*, HEALTH AFF., Spring 1990, at 107; PROSPECTIVE PAYMENT ASSESSMENT COMM’N, *supra* note 123, at 83-94. Interestingly, economists who utilize marginal cost constructs have been more sanguine. *See, e.g.,* HADLEY & ZUCKERMAN, *supra* note 117, at 165. In short, ProPAC has made the “organizational turn,” while many economists have not.

158. *See* Long et al., *supra* note 125. Unfortunately, there was no attempt in this study to isolate the effects of PPS from other factors at work, *see, e.g.,* Sloan et al., *supra* note 137, at 838-39 (utilizing trends in states not subject to PPS—the “waiver states”—as a control); HADLEY & ZUCKERMAN, *supra* note 117, at 21, 25, 67-68, 72-76 (controlling for non-PPS types of regulation and sources of competition), and the measurement of service units was inadequate (for example, an x-ray and a CT-scan both counted as one imaging unit). *See* Ashby & Altman, *supra* note 111, at 84-85.

It is sometimes asserted that “many hospital managers have responded to the incentives created by PPS by encouraging physicians to discharge patients according to the mean length of stay for their DRG.” KAREN DAVIS ET AL., HEALTH CARE COST CONTAINMENT 59-60 (1990). There are clearly instances of such behavior. For example, in their case studies of Hospital Corporation of America’s response to PPS, Campbell and Kane reported such activity in one—but only one—of the four hospitals studied. *See* Paul Campbell & Nancy M. Kane, *Physician-Management Relations at HCA: A Case Study*, 15 J. HEALTH POL., POL’Y & L. 591 (1990). Similarly, I have been told of practices in another leading proprietary chain in which individual stays exceeding the expected mean are consistently identified and swept within the hospitals’ utilization review procedures. (Personal communication from Linda P. Peeno, M.D., 1993). Finally, in their study of the use of medical intensive-care units, Mayer-Oakes and collaborators reported similar activities, *see* Mayer-Oakes, *supra* note 136, at 3148, although it is hard to generalize from discharges from intensive-care units because the latter are an especially crucial source of high costs. However, to the extent that there is the necessary systematic qualitative evidence to evaluate the breadth of these occurrences, it points in a contrary direction. *See infra* notes 221-48 and accompanying text. In any event, a knee-jerk use of mean length of stay to identify individual instances of inefficient production and ineffective practice is not exactly consistent with Fetter’s evaluative framework for efficiency. For one thing, Fetter and his collaborators were quite cautious about their use of length of stay as a proxy for efficient costs. In this regard, it is important to note, as I have discussed more fully elsewhere, that HCFA is no longer using length of stay to set the relative resource use among the DRGs, and thus the extent to which the rates embody clinical judgment is becoming increasingly attenuated. *See* Frankford, *supra* note 13. For another thing, the identification of just the cases exceeding the expected mean is not the same process as using the DRGs in an overall budget and management process. *See also infra* notes 175-83, 250 and accompanying text.

of productivity gains from a discrete focus on the productivity of particular DRGs.

### C. *The Financing of Care*

Likewise, the observed evidence does not support the proposition that hospitals have selectively tailored their admission and transfer patterns to fit the revenue opportunities offered for discrete DRGs. Virtually all evidence supports the conclusion that admission rates fell during the first three years of PPS, stabilizing or possibly increasing slightly in year four.<sup>159</sup> The dominant factors in this decline were the reduced admissions for high volume medical conditions for which there is relatively weak consensus on the need for hospitalization—pneumonia, congestive heart failure, and transient ischemic attack<sup>160</sup>—and the shift of some services to outpatient care, particularly lens procedures.<sup>161</sup> In these regards, there clearly was particular attention to specific DRGs, although much of this attention was forced by the PROs, not by the pressures of financial incentives.<sup>162</sup> However, there is no other proven linkage between changed admission patterns and the incentives posed by the reimbursement for particular DRGs, and no evidence shows that hospital administrators could exert effective, DRG-selective influence on physicians' admission or transfer practices.<sup>163</sup> Instead, as with practice patterns pertaining to length of

159. See Coulam & Gaumer, *supra* note 99, at 54.

160. See CODMAN RESEARCH GROUP, *supra* note 147, at 5, 14-16, 22.

161. See, e.g., David B. Smith & Robert Pickard, *Evaluation of the Impact of Medicare and Medicaid Prospective Payment on Utilization of Philadelphia Area Hospitals*, 21 HEALTH SERVICES RES. 529 (1986); Charles R. Fisher, *Trends in Medicare Enrollee Use of Physician and Supplier Services, 1983-86*, HEALTH CARE FINANCING REV., Fall 1988, at 1, 4-5; Jack Hadley & Katherine Swartz, *The Impacts on Hospital Costs Between 1980 and 1984 of Hospital Rate Regulation, Competition, and Changes in Health Insurance Coverage*, 26 INQUIRY 35, 44 (1989); CODMAN RESEARCH GROUP, *supra* note 147, at 16; Coulam & Gaumer, *supra* note 99, at 54-55.

162. As Bruce Vladeck reports,

most of the new PROs established by simple administrative fiat that Medicare would no longer pay for cataract operations on an inpatient basis, except under extraordinary circumstances. Seven other routine elective surgical procedures were treated in the same manner. Since cataract surgery represented the single most common reason for Medicare admissions prior to PPS, tens of thousands of inpatient cases disappeared almost overnight.

Vladeck, *supra* note 117, at 459-60 (footnote omitted). Similarly, the PROs targeted select high-volume medical admissions "for which there was a relatively weak consensus on the need for hospitalization." Viola B. Latta & Roger E. Keene, *Use and Cost of Short-Stay Hospital Inpatient Services Under Medicare, 1988*, HEALTH CARE FINANCING REV., Fall 1990, at 91, 91. Some of the decline in those admissions was due to this monitoring, not financial incentives. See, e.g., *id.*

163. There were some marked changes in the number of discharges in particular DRGs, such as the 563% increase in the number of discharges for DRG 124 (circulatory disorders, excluding acute myocardial infarction, with cardiac catheterization and complex diagnosis). See Latta & Helbing, *supra* note 119, at 79-80, 82, 86. However, such changes are probably artifacts of the coding system rather than attempts to manipulate the number of admissions. See *id.* In any event, the significance of such unadjusted statistics is difficult to interpret. There is also evidence of delayed admissions for some of the very important diseases, particularly acute myocardial infarction and pneumonia, and the evidence indicates that this delay has increased the average severity of those admissions. See, e.g., Emmett B. Keeler, *Changes in Sickness at Admission Following the Introduction of the Prospective Payment System*, 264 JAMA 1962, 1965-68



stay and service intensity, the evidence supports the conclusion that hospital administrators could attain at most some generalized effect.<sup>164</sup> Thus, no credible evidence indicates that admissions or readmissions were increased solely for the sake of churning volume.<sup>165</sup> Likewise little evidence supports the hypothesis that hospitals have cream-skimmed select, profitable DRGs while avoiding select, nonprofitable ones.<sup>166</sup> Although there is of course substantial

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(1990); William H. Rogers, *Quality of Care Before and After Implementation of the DRG-Based Prospective Payment System*, 264 JAMA 1989, 1993 (1990). However, because the PROs targeted these diseases, one cannot attribute such changed admission patterns to the weighing of financial incentives in the manner presupposed by the theory of the organistic firm. See also Latta & Helbing, *supra* note 119, at 79-80, 82; Latta & Keene, *supra* note 162, at 91.

164. See, e.g., Weiner et al., *supra* note 37, at 476.

165. With regard to readmissions, Coulam and Gaumer summarize a large literature as follows: "The relative consistency of research results on readmissions argues against any inference that hospitals systematically changed their patterns of care in ways that increased readmissions." Coulam & Gaumer, *supra* note 99, at 67. Recall that the authors in Manton et al., *supra* note 124, concluded that the changed organizational division of the labor at the discharge side of the stay reflected consideration of medical appropriateness. See *supra* note 132 and accompanying text. They reach a similar conclusion at the admission side: "The evidence suggests that no increase in hospital mortality or of admissions from another type of Medicare service use to hospitals was engendered by PPS. . . . Thus there is evidence that hospitals made medical distinctions both in discharge and admissions decisions and that the number of deaths in Medicare facilities of all types (not just hospitals) decreased." *Id.* at 153. As with the discharge side, I stress that this evidence pertaining to the admission side does *not* support the thesis that changed admission patterns were driven by the differentiated revenue opportunities of the DRG-based payment rates. Rather, it indicates that, consonant with the overall incentive of PPS to reduce inpatient length of stay, physicians generally tried to obtain that reduction while considering the medical appropriateness of alternative sites of care instead of, or prior to, an inpatient stay.

Naomi S. Soderstrom purportedly found evidence that, to increase their revenues, hospitals under financial pressure tried inappropriately to admit patients in lower-weight DRGs. This finding relied upon the supposition that such profit-generating admissions were more likely to occur in the less resource-intensive, lower-weight DRGs. Crucially, the inference that such behavior occurred was based on a finding of a greater PRO denial rate for those admissions, as compared with the higher-weighted DRGs and those with complications or comorbidities. See Naomi S. Soderstrom, *Are Reporting Errors Under PPS Random or Systematic?*, 27 INQUIRY 234 (1990). It is unclear, however, that inappropriate admissions in low-weight DRGs provide profit opportunities. Moreover, there are numerous reasons why PROs deny admissions, including, most importantly, differences in professional judgment. The inference is unjustifiable.

166. See, e.g., Frank A. Sloan et al., *Case Shifting and the Medicare Prospective Payment System*, 78 AM. J. PUB. HEALTH 553 (1988); Lave et al., *supra* note 128, at 360-61. These studies used data limited to 1984 and 1985, and there is some evidence that the number of transfers between acute-care facilities increased substantially, beginning in 1986. See PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 125, at 78; Coulam & Gaumer, *supra* note 99, at 67. It should be noted, however, that a decision to transfer is often unprofitable for both the transferring and recipient hospitals, due to the manner in which PPS reimburses transfers. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, 1992 MARCH REPORT, *supra* note 132, at 47-48. Given these incentives, if hospitals were transferring patients to maximize reimbursement, then *ceteris paribus* the increase in the number of transfers in 1986 is inexplicable, particularly since the methodology for reimbursing transfers has remained the same over the lifetime of PPS. See Medicare & Medicaid Guide (CCH) ¶ 4214 (1990).

Two studies deserve extended discussion. First, by studying discharges and transfers of veterans eligible for care in both Medicare and VA hospitals, Hurlley and colleagues found evidence of case shifting from the former to the latter. Their study tested the hypothesis that Medicare hospitals were taking advantage of this dual eligibility by shifting patients in "problem"—i.e., potentially unprofitable—DRGs to VA facilities. They hypothesized that this case shifting was occurring by transferring these problem patients or by discouraging their admission. The evidence did not show that Medicare hospitals had isolated these DRGs for transfer. Nonetheless, compared with a random sample of other DRGs, the problem DRGs evidenced a distinctive pattern of increased admissions at the VA hospitals. Based on this evidence, the authors concluded that Medicare hospitals were indeed selectively discouraging admissions. See Jeremiah

evidence of efforts to increase the overall profitability of the patient census, here too the effort more resembles the use of a blunt instrument, applicable across broad categories of "product-lines"—for example, "orthopedics"—rather than fine cutting with a scalpel by DRG.<sup>167</sup>

This evidence stands in stark contrast to the use of more purely financial tools to increase reimbursement. There is no dispute that hospitals have expended considerable effort to upcode their discharges into higher paying DRGs.<sup>168</sup> Additionally, while a massive literature has utilized multivariate analysis to debate the existence and magnitude of cost-shifting,<sup>169</sup> all of the qualitative

Hurley et al., *Assessing the Effects of the Medicare Prospective Payment System on the Demand for VA Inpatient Services: An Examination of Transfers and Discharges of Problem Patients*, 25 HEALTH SERVICES RES. 239 (1990). This finding, however, is questionable, for much of the documented change in number of discharges was probably attributable to changed practice patterns and upcoding—such as the DRGs for cardiac disorders, compare *id.* at 244 (table 1) (DRGs 127, 138 and 140) with Katherine L. Kahn, *The Effects of the DRG-Based Prospective Payment System on Quality of Care for Hospitalized Medicare Patients*, 264 JAMA 1953, 1954 (1990), the ones for lens procedures, some of the respiratory illnesses, and some of the gastrointestinal diseases. Compare Hurley et al., *supra*, at 244 (table 1) (DRGs 39, 96, 148 and 182) with Latta & Helbing, *supra* note 119, at 79-80.

Second, in a well-designed study based on a national sample, Joseph Newhouse found some evidence that city and county hospitals—"hospitals of last resort"—were treating a higher distribution of unprofitable DRGs than were Medicare hospitals, thereby implying that Medicare hospitals were turning away unprofitable admissions. See Joseph P. Newhouse, *Do Unprofitable Patients Face Access Problems?*, HEALTH CARE FINANCING REV., Winter 1989, at 33, 38-41. However, as discussed by Newhouse, this evidence was equivocal, and the DRG-selection hypothesis was belied by a contrary distribution of outliers and by a finding that unprofitable DRGs were less likely to be transferred than were profitable ones. See *id.* at 37-41. All in all, Newhouse concluded that the statistical evidence is troubling, "but the evidence is as yet too weak to conclude that [cream-skimming of admissions] is a serious problem." *Id.* at 41.

167. See *infra* notes 175-83, 250 and accompanying text. In two studies, researchers concluded that PPS led hospital administrators to alter their hospitals' technical core, thereby significantly affecting admissions, readmissions and other aspects of practice. The researchers also found evidence that these alterations have occurred selectively, motivated by DRG profitability. See E. Greer Gay et al., *An Appraisal of Organizational Response to Fiscally Constraining Regulation: The Case of Hospitals and DRGs*, 30 J. HEALTH & SOC. BEHAV. 41 (1989); E. Greer Gay & Jennie J. Kronenfeld, *Regulation, Retrenchment—The DRG Experience: Problems from Changing Reimbursement Practice*, 31 SOC. SCI. & MED. 1103 (1990). Unfortunately, these studies were flawed because, among other things, they failed to specify organizational processes and structure that made the purported responses possible, their definition of the technical core was dubious, their measurement of regulatory intensity was inadequate, they did not control for nonregulatory environmental factors, their proxies for physician practice patterns were unreliable, and their control for case mix was untrustworthy.

168. See *infra* notes 194-97 and accompanying text. There has been substantial difficulty in determining how much of the upcoding has reflected more accurate coding practices, a sicker inpatient population, or manipulation of the coding system to enhance payments. However, no one disputes that manipulation has occurred. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 142, at 41-51.

169. In this controversy, the different parries have come in two rounds. Initial attempts are made to compare "the facts," followed by attempts to "respecify the facts" through utilizing different definitions of "cost" and different models of rationally allocating "true economic costs" among different buyers willing to pay different prices. One can follow this process of "comparing fact" and "respecifying fact" by reading the following examples in order: Danzon, *supra* note 84; Joel W. Hay, *The Impact of Public Health Care Financing on Private-Sector Hospital Costs*, 7 J. HEALTH POL., POL'Y & L. 945 (1983); Frank A. Sloan & Edmund R. Becker, *Cross-Subsidies and Payment for Hospital Care*, 8 J. HEALTH POL., POL'Y & L. 660 (1984); Jack Hadley & Judith Feder, *Hospital Cost Shifting and Care for the Uninsured*, HEALTH AFF., Fall 1985, at 67; Richard W. Foster, *Cost-Shifting Under Cost Reimbursement and Prospective Payment*, 4 J. HEALTH ECON. 261 (1985); David Dranove, *Pricing by Non-Profit Institutions: The Case of Hospital Cost-Shifting*, 7 J. HEALTH ECON. 47 (1988); Stephen Zuckerman & John Holahan, *PPS Waivers: Implications for Medicare, Medicaid, and Commercial Insurers*, 13 J. HEALTH POL., POL'Y & L. 663, 675-79 (1988);

evidence indicates that hospital administrators try to shift costs among payers to increase reimbursement.<sup>170</sup> Because the dispute over cost-shifting drives the debate whether one payer or group of payer “cross-subsidizes” other payers, and because any such conclusion is evaluative, one ignores with peril the expressed understanding of hospital financial officers that they use accounting practices to increase their revenues. Any contrary finding that there is no cost-shifting, resting on the use of theoretical constructs, reflects only the arrogance of social scientific positivism, although of course such literature is helpful in rendering the necessary normative judgments.

In light of this empirical evidence concerning hospital behavior under PPS, the argument that PPS caused hospitals to engage in DRG-based product-line management and specialization is unsustainable. PPS perhaps has caused some generalized effects across all or most DRGs, such as reduced length of stay across the board. It is also possible that these generalized effects are attributable to the pressure imposed on a hospital by the sum total of its Medicare reimbursement<sup>171</sup> and the fact that hospital administrators do react to such a broad bottom line if they can,<sup>172</sup> with general exhortations pitched to the entire medical staff to reduce length of stay, to order fewer tests and services, and to substitute less expensive therapies for more expensive ones.<sup>173</sup> Furthermore, there are other more discrete activities from which one can plausibly infer some form of organizational rationality, albeit not necessarily the type posited by Fetter’s model. To summarize the evidence described above, there has been attention to particular procedures shifted to outpatient surgery; unbundling of preadmission tests; reduction in average length of stay and a concomitant increased use of home health care services across the board and increased use of nursing care for hip procedures and a few other important DRGs; a focus on the psychiatric DRGs; some substitution of the use of long-term hospitals and rehabilitation hospitals or distinct-part units for long-term inpatient rehabilitation;<sup>174</sup> enhanced attention given to intensive-care units; one-time, panicked

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Michael A. Morrisey & Frank A. Sloan, Hospital Cost Shifting and the Medicare Prospective Payment System (May 1989) (unpublished paper); JACK HADLEY & STEPHEN ZUCKERMAN, CHANGES IN HOSPITALS’ CHARGES TO PRIVATELY INSURED PATIENTS DURING PPS (Urban Institute, Project Report No. 3429-07, 1990). Given that there are always alternative conventions available to define “costs,” the facts can always be respecified. At least when sovereign action is discussed, the question is not an empirical one to be settled by asking what type of behavior would be rational if accomplished by an economic actor in various types of market structure. Instead, the issue calls for normative justification regarding the exercise of sovereign authority: Is it proper that our sovereign acts solely to protect its own interests in administering PPS? It is a question of right, and once one has defined what counts as “cost,” one has determined what is right.

170. See *infra* notes 203-08 and accompanying text.

171. See, e.g., Feder et al., *supra* note 96; Hadley et al., *supra* note 96.

172. See, e.g., Arnold M. Epstein et al., *Trends in Length of Stay and Rates of Readmission in Massachusetts: Implications for Monitoring Quality of Care*, 28 INQUIRY 19 (1991).

173. See *infra* notes 218-26 and accompanying text.

174. See Heinemann et al., *supra* note 128; Carroll & Erwin, *Long-Term-Care Facilities in Pennsylvania*, *supra* note 135. But see Carroll & Erwin, *Long-Term-Care Facilities in Georgia*, *supra* note 135. There are simply not enough studies concerning exempt hospitals and distinct-part units other than

reductions in non-medical staff; attention to capital investments able to escape the net thrown by PPS; a selective focus on a few very expensive new technologies; a large commitment of resources to coding; and a commitment of resources by some hospitals to maximize opportunities for cost-shifting. Otherwise, no other inferences of DRG-based product-line rationality are possible from observed behavior. There is no proven attempted specialization, no proven generalized attention to selective DRGs to tailor costs to match revenue opportunities, no proven attention to cream-skim at the admission side of the hospital stay, and no proven effort selectively to push out patients at the discharge side. The hospital generally does not act like that organism at the center of the neoclassical model, weighing marginal costs and benefits by DRG-based product line.

In short, while hospitals might have responded to the fact that PPS is a prospective reimbursement system—behavior justifying the continued use of some form of prospective payment—all evidence indicates that hospitals are generally not “sensitive” to the price variations among the DRG-based rates used in the Medicare PPS.<sup>175</sup> Because the complicated per-case payment system rests on the behavioral premise that such price sensitivity exists, the current form of prospective payment remains to be justified. Indeed, most managers in hospitals seem to recognize that their organizations cannot respond to such price variations, for the available evidence indicates that very few have even generated, much less used, the information necessary for there to be such sensitivity. To be sure, in the post-PPS era, many more hospitals are using some type of automated cost-accounting system,<sup>176</sup> and many hospitals are now making a much greater use of information pertaining to some forms of “product lines.”<sup>177</sup> However, one must distinguish carefully between different types of product-line management, for the “product” can be defined in a multitude of ways. It can be defined as narrowly as Fetter conceived it, by DRG, or more broadly by aggregates of DRGs (for example, all cardiology DRGs). The definition could be wider still, encompassing broad service lines (for example, psychiatric services), or even departments (for example, pathology). Additionally, different definitions can be utilized within a single organization for the different strategic functions of marketing, planning, budgeting, cost accounting and utilization review.<sup>178</sup> In fact, the most systematic study, writ-

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psychiatric ones. See Coulam & Gaumer, *supra* note 99, at 60.

175. See generally SYSTEMETRICS/MCGRAW-HILL, *supra* note 133.

176. See, e.g., *id.* at 13. PPS was a factor in generating this change but not the sole cause, for many environmental alterations in the 1980s contributed.

177. Below there is a much fuller description of the manner in which hospitals use DRG-based information. See *infra* notes 221-50 and accompanying text.

178. See, e.g., Robin Scott MacStravic, *Product-Line Administration in Hospitals*, HEALTHCARE MGMT. REV., Spring 1986, at 35; James X. Reynolds, *Using DRGs for Competitive Positioning and Practical Business Planning*, HEALTHCARE MGMT. REV., Summer 1986, at 37.

ten in 1988, concluded that most hospitals were still using traditional departmental cost accounting,<sup>179</sup> that most hospitals were more interested in using whatever type of information they did generate—even DRG-based information—for maximizing reimbursement and promotional efforts than for controlling costs,<sup>180</sup> and that there were few differences among PPS and non-PPS hospitals in the type of information generated and the use made of that information once produced.<sup>181</sup> This study and other literature indicates that, to the extent that there even is more product-line management, the predominant forms are much less complex than those differentiated by DRGs, particularly for utilization review.<sup>182</sup> In summary,

the majority of U.S. hospitals are not poised to exploit the incentives of the DRG system through cost management and strategic market position. Among PPS hospitals, some progress was seen in hospitals' awareness of their performance under PPS; however, comparisons of cost and DRG data in hospital management has been quite limited. Non-PPS hospitals in Maryland and New Jersey showed similar levels of

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179. See SYSTEMETRICS/MCGRAW-HILL, *supra* note 133, at 2, 12-19. This study consisted of survey evidence obtained from a small but nationally representative sample of 89 Medicare community hospitals. *Id.* at 11. Even ignoring the sixteen small rural hospitals in the study that had no automated cost-accounting system, *see id.* at 12-13, a large majority of the rest were using traditional departmental cost-accounting systems and only a relative few were using a system capable of generating costs by procedure or by DRG. *See id.* at 12-19.

180. Even among the hospitals generating procedure- or DRG-specific cost information, the majority were comparing *charges* against the reimbursement rate for each DRG. *See id.* at 3, 19-25. The authors of the study attributed the failure to compare *costs* against DRG rates to hospital managers' concerns about the reliability of the relatively new type of cost information generated. *See id.* at 20-21. However, charges are these managers' means of allocating costs among different payers. It is thus quite understandable "that, although [these hospitals] have the capability to use actual cost information, they often find it more useful to compare DRGs to charges." *Id.* at 20. This explanation is also consistent with the study's finding that DRG-based information was not being used to control costs, but primarily to make decisions regarding the expansion and promotion of service lines to non-Medicare payers in order to make up for any losses on Medicare discharges. *See id.* at 4-6, 27, 33-46.

181. *See id.* at 6-7, 47-54. The comparison hospitals were drawn from New Jersey and Maryland. Even though the hospitals studied were subject to three different reimbursement structures, there were few relevant differences.

182. *See, e.g.,* Steven R. Eastaugh, *Has PPS Affected the Sophistication of Cost Accounting*, HEALTHCARE FIN. MGMT., Nov. 1987, at 50 (surveying 54 hospitals and finding that approximately half of those in PPS states were using job-order cost accounting for the highly variable DRGs); Glen I. Kazahaya and Guy M. Masters, *Case-Mix Management Enhances Profitability*, HEALTHCARE FIN. MGMT., Sept. 1988, at 76 (describing broad service-line management implemented at twelve hospitals); Reynolds, *supra* note 178 (discussing the grouping of DRGs into a few departmental product lines and then into larger aggregations, called strategic business units, for marketing, planning, budgeting and utilization review); David H. Schroeder, *Toward a Departmental Bottom-Line Perspective*, 14 HEALTH CARE MGMT. REV. 25 (1989) (describing the breakdown of DRG rates into departmental responsibility); Dalton A. Tong & Patricia L. Jones, *Physicians, Financial Managers Join Forces to Control Costs*, HEALTHCARE FIN. MGMT., Jan. 1990, at 21 (describing educational efforts aimed at physicians with the use of DRG-based information).

price sensitivity. Most hospitals continue to operate under an orientation defined by cost-based reimbursement, which focuses on maximization of revenue rather than management of costs.<sup>183</sup>

This discord between the predicted rational choices and observed behavior stems directly from the organistic model with which we started. As Dr. Vladeck observes, there is something in this empirical story for everyone. Part of this ambiguity is due to the heavy reliance on composite measures:

[Such data] . . . make[] for particularly lively and confusing public policy debate, since there is something in it for almost everyone. Critics of hospitals and of the theory of economic incentives point to the rate of cost increases since PPS [year] 1 and argue that not even the powerful incentives of PPS have induced hospitals to change their cost-incurring behavior. Hospitals can point to the aggregate increase in costs since PPS was implemented and argue with some justice that it is lower than might otherwise have been the case. Hospitals also argue, quite correctly, that Medicare's costs are growing much more slowly than before the inception of PPS, while pointing, with increasing fervor, to the growing cumulative disjunction between growth in the market basket and PPS updates.<sup>184</sup>

The use of composite measures is in turn linked to the use of broad national rates for payment, with the following necessary search for disparate impacts and incentives among different types of hospitals: "Since uniform rates were not introduced into a world of uniform costs . . . , considerable punishments and rewards attach to what may be largely the results of *idiosyncratic circumstances*."<sup>185</sup> Thus, the original model's ambiguity regarding the process by which PPS would drive "the hospital" carries forward from the legislation's initial passage<sup>186</sup> to the debate concerning implementation and refinement; the continuing "lively and confusing public policy debate" is linked to the organistic model with which we started. Built upon this model, predictions concerning rational organizational choice were and are made, particularly the crucial one that there will be product-line management. Great hope is expressed that the process of care will become more productive—this is the positive side of medical discretion. Likewise, great fear is expressed that undertreatment will

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183. SYSTEMETRICS/MCGRAW-HILL, *supra* note 133, at 55. Although the data in this study are dated, all evidence indicates that the conclusions are not.

184. Vladeck, *supra* note 117, at 463. The "market basket" is a general index of inflation in the goods and services used by hospitals.

185. *Id.* at 470 (emphasis added).

186. See *supra* notes 52-59 and accompanying text.

occur—the negative side.<sup>187</sup> Evidence disconcerting for the maintenance of the rationality model begins to come in—most tellingly, there is little evidence of specialization. Then there is often a quite striking defensive reaction: The models are right in positing organistic rationality, but the implementation in the reimbursement system is flawed. There are, for example, necessary adjustments to be made in the system in order to account for variations among hospitals and the differential impact of PPS among them.<sup>188</sup> Additionally, there is much work to be done refining the classification scheme itself.<sup>189</sup> Throughout the development of the models, particularly during the 1980s, there is an accelerating differentiation of the parameters by which one can specify the hospital's utility function or those of physicians. There is, however, no movement away from the use of an organizational utility function. The use of the organistic model in public policy in part generated uniform rates; it is linked to the massive research effort concerning the effects of those rates and the complicated scheme of adjustments they necessitate; and this entire effort helps spawn the continuing debate and expenditure of effort regarding refinement.

In sum, public policy concerning hospital reimbursement, based on the organistic rationality of the optimizing firm, is bound to be flawed both instrumentally and evaluatively. Maximizing, organistic organizational rationality could exist only if the hospital were structured along the lines of Weber's rational-legal bureaucracy<sup>190</sup> modified by consideration of the transactions costs of different forms of vertical and horizontal integration.<sup>191</sup> Our actual hospitals, however, do not resemble these models. They are extremely complex

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187. The worst fears were not realized, *see* Coulam & Gaumer, *supra* note 99, at 70, because these fears, like the great hopes, relied upon the organistic model of the hospital. Given the inadequacy of the model, neither set was realistic.

188. *See, e.g.*, Lave, *The Impact of PPS*, *supra* note 51 (arguing for the use of rebased rates, a hospital-specific component, and a geographic price index for nonlabor operating costs); Gregory C. Pope, *Using Hospital-Specific Costs To Improve the Fairness of Prospective Reimbursement*, 9 J. HEALTH ECON. 237 (1990) (arguing for the use of blended national and hospital-specific rates designed to separate hospital-specific inefficiency from unobserved factors, such as severity, which the hospital cannot control); Feder et al., *supra* note 96; Hadley et al., *supra* note 96 (arguing for the use of case-mix-adjusted hospital-specific rates so that hospitals would be subject to equalized pressure); Jack Hadley, *A Blunt Instrument*, 29 INQUIRY 7 (1992) (arguing for a mixture of a hospital-specific component and case-mix-adjusted rates developed around local areas of competition); Oday & Dobson, *supra* note 51 (arguing that the retention of national rates is a necessary condition of efficiency); *see also* DAVIS ET AL., *supra* note 158, at 55-56 (arguing for the use of an "objective" inflation factor); Frank D. Gianfrancesco, *The Fairness of the PPS Reimbursement Methodology*, 25 HEALTH SERVICES RES. 1 (1990) (finding systematic bias in numerous design features, including the geographic designations and the weights for the low-cost DRGs).

189. *See, e.g.*, Freeman et al., *supra* note 31; Averill et al., *supra* note 31. In this regard, David Dranove has offered a particularly ingenious attempt to avoid falsification of the rationality model. He argues that specialization will be efficient only if the patient-care categories are homogeneous. Almost everyone agrees by now that the DRGs are not homogeneous. Therefore, the argument runs, the lack of efficient specialization indicates flawed implementation of the rationality model, not a problem with the model itself. *See* David Dranove, *Rate-Setting by Diagnosis Related Groups and Hospital Specialization*, 8 RAND J. ECON. 417 (1987).

190. *See generally* WEBER, *supra* note 57, at 956-1005.

191. *See generally* OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES* (1975).

organizations, with a multitude of diverse actors, all of whom interact in complex and variable ways. To the extent that work is organized by a structure or process at all, that organization is certainly not hierarchical. Assuming that it is realistic even to speak of organizational rationality at all, it is nonetheless totally unrealistic to model maximizing rationality. For just an individual, the calculus adumbrated above for optimal behavior under PPS is dizzying in its complexity and thus impractical as an algorithm for action. For a complex organization, the calculus is not just an impracticality but an impossibility. Further, it is extremely dangerous—again both instrumentally and normatively—to formulate public policy around models that generalize across hospitals, even when the models differentiate organizations by such structural factors as case mix, size, location, and type. Each hospital has a particular mix of actors, a singular history and culture, and operates within an environment perhaps shared by a small number of other hospitals but certainly not by many, much less by all.<sup>192</sup>

#### V. The Hospital as a Singular, Complex, and Situated Organization

This conclusion can be elaborated by considering a contrast: Would institutionally and ecologically rich models of satisficing organizations help focus public policy? The claims are certainly more plausible.<sup>193</sup> Let us run

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192. I recognize of course that models are chosen to address particular empirical questions. Compare, e.g., Thorpe & Phelps, *supra* note 84 at 147 & n.7 (positing a “utility function for the hospital decision-makers” as a “relatively harmless assumption” “for purposes of analyzing price controls”) with Phelps, *supra* note 6, at 112-16 (utilizing a political economic model of the hospital and its environment for purposes of exploring “the hospital’s view of price-setting and charge-shifting”); Phelps & Sened, *supra* note 89 (modeling the hospital as a political economy in which, to enable physicians to maximize their income, the hospital exercises its monopoly power and distributes the resultant rents to the staff in the form of lower input prices for staff production, and in which members of the medical staff compete internally and externally for the allocation of those benefits, with internal decision rules dictating the internal allocation, and interhospital competition dictating the equilibrium among hospitals). I also believe, however, that the relatively simple organic models have tended to darken more than illuminate, and that our public policy has thereby suffered. Moreover, because I believe that factual construction is guided by normative interests, see *supra* notes 21 & 30, my view is that the selection of models affects our understanding of our normative choices. For a fuller discussion, see David M. Frankford, *Neoclassical Health Economics and the Debate over National Health Insurance: The Power of Abstraction*, 18 LAW & SOC. INQUIRY (forthcoming 1993).

193. My aim here is not to present a full-blown theory but simply to offer enough so as to draw the contrast between the organic models and more complex organizational ones. I do not, for example, offer a theory regarding the types and sequencing of organizational responses such as that in Cook et al., *supra* note 89; Shortell et al., *supra* note 88. Further, I do not utilize the process-based distinctions between goal formulation and implementation that are the basis of this work, see, e.g., *id.* at 222, and I do not invoke the theory’s relatively structuralist account of external and internal characteristics such as regulatory intensity and market structure (external structure), and physicians’ age and sex, number and composition of committees and governing boards, and hospital types and ownership (internal structure). See, e.g., Stephen M. Shortell et al., *Economic Regulation and Hospital Behavior: The Effects on Medical Staff Organization and Hospital-Physician Relationships*, 20 HEALTH SERVICES RES. 597 (1985); Alexander et al., *supra* note 101; Lawton R. Burns et al., *The Effect of Hospital Control Strategies on Physician Satisfaction and Physician-Hospital Conflict*, 25 HEALTH SERVICES RES. 527 (1990). This theory assumes that the “environment” and organizational rationality are independent, while I consider the environment to be perceptual. See, e.g., Thomas et al., *supra* note 88, at 873. This theory also utilizes organizational rationality postulates too strong



down our previous list of the objects of organizational rationality. As a plausible beginning, we can categorize these objects by virtue of the extent to which they threaten physicians' prerogatives, but our discussion will be enriched by differentiating among types of hospitals and physicians, by considering the aims of persons with whom physicians work, and by accounting for the process and structure of the ecology external to the hospital.

We can begin with the coding of discharges. Everyone in the hospital cheerfully can agree to game the coding system so as to increase the hospital's reimbursement. At some organizations, this game can be profitably put in motion simply by holding periodic training sessions on coding practices and by utilizing a relatively minimal degree of administrative oversight. At other hospitals, particularly the large urban teaching facilities, the stakes are higher, and it is therefore worthwhile to expend more resources in the gaming effort. Hence, there would be substantial investment in the plant and labor necessary to increase revenues from coding, including the increased employment, with appropriate perquisites,<sup>194</sup> of the clerical staff which performs the coding.<sup>195</sup> There would also be the devotion of a substantial amount of time by a financial officer to coding and charging practices, perhaps even the hiring of outside consultants,<sup>196</sup> and, most importantly, an investment in the necessary computing technology.<sup>197</sup> Within all hospitals there would be relatively minimal

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for my tastes, for it conceives of organizational goal formulation as dominated by individual means-end rationality, and it relies upon a fairly traditional conceptual division, albeit a porous one, between goal formation and implementation. Compare, e.g., Shortell et al., *supra* note 88, at 220-24, 253-61 (utilizing these concepts) with, e.g., Kimberly & Zajac, *supra* note 89, at 295 (utilizing recursive causation). As I indicated previously, see *supra* note 88, I am more comfortable with the fluid, less structured process-based accounts in works like Ashmos & McDaniel, *supra* note 9, particularly the pragmatic idea that information processing and decisionmaking participation recursively flow with "the decision at hand," *id.* at 380, although I place greater stress on the deployment of information as power than does an information-processing model. See *id.* at 381-83 (discussing the processing of information to reduce organizational uncertainty). My discussion will also indicate that I agree with Ashmos and McDaniel that the relationship between strategic process, content and context is very important. See *id.* Finally, all of the behavioral models rest on premises regarding nomological ordering of variables and falsificationism, neither of which I share.

194. No one expressed this point better than the former Inspector General of DHHS, Richard Kusserow. He commented that, with the advent of PPS, employees who code bills for reimbursement "who were down next to the boiler room in the sub-basement of the hospital are on the top floor with the hospital administrators, and they also have the keys to the kingdom." *Inspector General Takes Aim at PPS Fraud*, J. AM. MED. RECORDS, March 1986, at A, reprinted in part in ELIZABETH E. HOGUE ET AL., PREVENTING FRAUD AND ABUSE: A GUIDE FOR MEDICARE AND MEDICAID PROVIDERS 91 (1988).

195. See, e.g., Eileen Appelbaum & Cheryl S. Granrose, *Hospital Employment Under Revised Medicare Payment Schedules*, MONTHLY LAB. REV., Aug. 1986, at 37, 40-42, 45; see also Cromwell & Pope, *supra* note 142, at 47; Cromwell & Puskin, *supra* note 122, at 376; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 57 (showing increasing number of medical records technicians as a percentage of all medical records staff); LEWIN-ICF, *supra* note 144, at 5-4, 5-6 to 5-7 (contrasting coding practices at PPS winners and losers).

196. See, e.g., LEWIN-ICF, *supra* note 144, at 5-15, 5-39.

197. See, e.g., Barbara J. McNeil, *Hospital Response to DRG-Based Prospective Payment*, 5 MED. DECISION MAKING 15 (1985); PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 142, at 44-45; LEWIN-ICF, *supra* note 144, at 5-6 to 5-7. ProPAC has found that "winning hospitals [under PPS] were likelier to have considered alternative DRG assignments before, during, and after a patient's hospitalization

inconvenience, the game can actually be fun for all, and there is little threat to the technical autonomy of the service professionals.<sup>198</sup>

Meanwhile, outside the hospital the financial pain from higher payments is spread among a fragmented reimbursement system, working particularly against private payers, who have the least power.<sup>199</sup> The most powerful external player, HCFA, is reduced to continual expressions of frustration at its inability to stop the game, particularly because Congress, ProPAC and others press it, first, to make changes in the classification system, which thereby set off more opportunities for manipulation, and, second, to give hospitals the benefit of the doubt in rate-setting decisions, which thereby keeps the game profitable by allowing hospitals to retain a portion of the revenue that manipulation generates.<sup>200</sup> Indeed, both of these benefits accrue precisely to the high-tech urban teaching institutions, which already have the greatest incentives to game the system.<sup>201</sup> The PROs can keep the manipulation within bounds, but stopping it cold would depend at least upon a massive effort of record review, and even that effort might not be terribly effective.

A fruitful comparison can then be drawn regarding the game of unbundling preadmission tests and services. Unlike coding, unbundling could be cured quite easily, as evidenced by the prophylactic rule enacted by Congress to govern the DRG payment-window: For reimbursement purposes, the services that had been unbundled to outpatient care were by legislative fiat redefined such that they became born-again "inpatient services."<sup>202</sup> Moreover, unlike coding, unbundling motivated a single powerful actor to seek legislative help, because it imposed generalized inconvenience across numerous Medicare beneficiaries who had to make additional trips to a hospital for what had previously been a united episode of care, and because Medicare beneficiaries typically coalesce into a powerful interest group when collective interests are threatened and identified. In this arena, therefore, hospitals did the best they could, temporarily winning the battle to manipulate the system though perhaps losing the war.

Altering coding practices and unbundling of preadmission services were activities around which all internal actors could readily unite. In contrast, obtaining organizational commitment to utilize opportunities for cross-subsidization might be a little more difficult to attain and to maintain. High mark-ups

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to maximize payments under the DRG-based system." PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 92.

198. *See, e.g.*, Cook et al., *supra* note 89, at 197-99 (discussing how professional organizations will "buffer" their internal "technical core" by manipulating the environment if possible).

199. *See, e.g.*, Phelps, *supra* note 6, at 112-16.

200. *See* Frankford, *supra* note 13.

201. *See id.*; *see also, e.g.*, Shortell et al., *supra* note 88, at 260 (discussing how higher degrees of competition necessitate more complexity in management information systems).

202. *See supra* note 122 and accompanying text. The fact that preadmission tests and services are readily measurable means that they are easily unbundled, *see* Morrisey et al., *supra* note 70, at 34, but it also means that these attempts to escape the regulatory net are easily policed. *See, e.g., id.* at 36.

for some "products" might affect various services differently,<sup>203</sup> thereby potentially raising the hackles of some important players within the hospital, creating internal rivalries, and triggering the standard defenses concerning professional autonomy from lay interference. This danger might be particularly acute in a large urban teaching facility, given the substantial power of the department chiefs,<sup>204</sup> as well as their increased involvement in budgeting by clinical departments.<sup>205</sup> However, these problems should not be overstated, for they are probably surmountable. Charging falls within the domain of the accountants and financial officers, not just in the sense of technical accounting and pricing, but also in the sense that they are in the best position to render judgments concerning the effects of different charging practices on the external environment, the overall ecology.<sup>206</sup> All others inside the hospital are therefore dependent upon their expertise, both because of their managerial science and due to their political skills and judgments as boundary spanners.<sup>207</sup> In fact, the need for political judgments is indicated by the possibility that officers might decide against a potential reimbursement strategy so as not to anger an outside constituency, thereby "leav[ing] extra profits lying on the table."<sup>208</sup>

When we move to the shifting of some services, particularly surgical ones, to outpatient care, things start to get a bit trickier. The benefits from such a change are obvious: potentially more lucrative reimbursement from more attractive reimbursement structures; the possibility of countless games in accounting to shift costs around in cost reports;<sup>209</sup> the ability to project an

203. See Phelps, *supra* note 6, at 114-15.

204. See, e.g., YOUNG & SALTMAN, *supra* note 37, at 72-88.

205. See, e.g., Robert M. Heyssel et al., *Decentralized Management in a Teaching Hospital*, 310 NEW ENG. J. MED. 1477 (1985) (decentralized budgeting by clinical department); McNeil, *supra* note 197, at 16-19 (using DRG-based information, primarily aggregated by clinical departments and supplemented by information regarding selective DRGs, for joint management by administrators and clinical chiefs); cf., e.g., Iden Wickings, *Combining Clinical Budgets and DRGs for Quality Management*, 7 HEALTH POL'Y 215, 222-23 (1987) (similar use in the British National Health Insurance System).

206. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 91; LEWIN-ICF, *supra* note 144, at 5-4, 5-11, 5-15, 5-38 to 5-40 (finding association between winning under PPS and managerial skill in anticipating and maximizing reimbursement). My focus here is on the political economy of charging as a means to shift costs among private and public payers. At least in competitive environments, charging is also a marketing decision. Under this characterization of charging, Ashmos and McDaniel found less physician participation than in areas related to production efficiency and effectiveness. see Ashmos & McDaniel, *supra* note 9, at 381, 387 (table 2, item 1), 390, a finding limited by small sample size but consistent with my analysis.

207. See, e.g., Cook et al., *supra* note 89, at 199; Alexander et al., *supra* note 101, at 222-23 (discussing how hospitals will acquire and utilize greater boundary spanning expertise to evolve stable and ongoing responses to more intensive and uncertain regulatory environments).

208. Phelps, *supra* note 6, at 116; see LEWIN-ICF, *supra* note 144, at 4-13 to 4-14.

209. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 93 (associating winning under PPS with greater financial acumen, which "permitted winning hospitals to complete Medicare Cost Reports in an advantageous manner and enabled hospitals to challenge Medicare on discretionary costs"); LEWIN-ICF, *supra* note 144, at 5-12, 5-40 (discussing cost shifting to ambulatory-care facilities); cf. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 92-93; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, WINNERS AND LOSERS UNDER PPS, *supra* note 147, at 8-17; LEWIN-ICF, *supra* note 144, at 5-8 to 5-9, 5-39 to 5-40 (associating winning under PPS with the ability to shift costs through creative accounting to

image that the hospital provides state-of-the-art care;<sup>210</sup> and greater “diversification” in the sense that the hospital is less dependent upon Part A reimbursement and its risk is spread over the much more fractured reimbursement system that exists for outpatient care.<sup>211</sup> Medical and allied professionals within the hospital perceive little threat to the outcome of care, given that technological advances have made outpatient surgery safe and effective. Likewise, based on this perception of quality of care, as well as perceptions of enhanced efficiency, payers and regulators in the external environment are generally positive toward such site-of-care substitution. However, unlike coding, unbundling and cross-subsidization, outcomes are more directly implicated, and there is thus the potential for more intensive oversight. In part not to ruffle internal professional feathers, and in part not to spark even more stringent external scrutiny, administrators are careful not to move whole hog into outpatient services, but instead act selectively, balancing the concerns for quality, internal peace, financial opportunity and future regulatory action. Compared with coding and charging games, one would thus expect to see greater deference to professional authority and more variations among institutional practices.<sup>212</sup>

In regard to hip procedures, matters become even more delicate. There is increased uncertainty regarding appropriate episodes of care, and the risks of error are large because hip fractures are associated with high morbidity and mortality. Although orthopedic surgeons are very powerful actors within the

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such non-PPS units as skilled nursing facilities and rehabilitation units).

210. See, e.g., Arnold D. Kaluzny et al., *Emerging Organizational Networks: The Case of the Community Clinical Oncology Program*, in *INNOVATIONS IN HEALTH CARE DELIVERY: INSIGHTS FOR ORGANIZATIONAL THEORY* 86, 108-09 (Stephen S. Mick ed., 1990) [hereinafter *INNOVATIONS IN HEALTH CARE DELIVERY*].

211. As noted by Bruce Vladeck, “[i]t is harder to control the volume and quality of services in the pluralized, decentralized, diversified, and largely undefined world of outpatient care than in the well-defined universe of only 5,000 or so hospitals.” Vladeck, *supra* note 117, at 479; see, e.g., Cook et al., *supra* note 89, at 200 (discussing how such diversification “allows the hospital more latitude and flexibility to deal with future changes in regulatory intensity”); LEWIN-ICF, *supra* note 144, at 5-12 (discussing diversification of revenue sources through expansion of ambulatory-care networks); see also Edward J. Zajac & Stephen M. Shortell, *Changing Generic Strategies: Likelihood, Direction, and Performance Indicators*, 10 *STRATEGIC MGMT. J.* 413, 424-25, 427 (1989) (using a national sample and finding that under PPS more hospitals were pursuing the strategy of maintaining their stable core of products while cautiously searching for more diversified offerings); Gregory O. Ginn, *Strategic Change in Hospitals: An Examination of the Response of the Acute Care Hospital to the Turbulent Environment of the 1980s*, 25 *HEALTH SERVICES RES.* 565, 568-69, 573, 584-85 (1990) (comparing the adaptation strategies of suburban and urban hospitals in Texas over two periods, 1976-1980 and 1981-1985, and making similar findings).

212. There are difficult questions of judgment involved, for decisions to shift surgical procedures to outpatient care involve questions of reimbursement, accounting, and the technical core. Thus, for these strategies the lines between Ashmos and McDaniel’s categories of “marketing” and “production” are blurred. Moreover, for some hospitals and some procedures, the shift to ambulatory-care surgery probably represents an extension of old product lines, which are therefore less risky and easier to pull off internally. By contrast, for other hospitals or procedures, the shift involves the creation of new lines and the concomitant greater uncertainty and threat to internal stability. See, e.g., Shortell et al., *supra* note 88, at 229, 232-33, 238, 244, 257, 259. Finally, some shifts involve capital expenditures, a domain more traditionally within managerial prerogatives and one that can be more centralized. See, e.g., *id.* at 257. In light of this richness of relevant factors varying among hospitals, generalizations across them are dangerous.

hospital, both because of their rank in the medical hierarchy and their ability to generate revenues for the hospital,<sup>213</sup> they share power with other professionals in the hospital, such as the physical therapists who oversee rehabilitation and the social workers who make arrangements for post-discharge care. These actors on the patient-care team sometimes disagree on the appropriate moment for discharge. This potential rivalry therefore gives administrators an opening to work their will, and they certainly have incentives to maintain oversight, given that hip procedures are the most important Medicare DRGs. Additionally, there is immense pressure asserted against this fairly delicate internal balance, for from the beginning of PPS, Congress, ProPAC, researchers and various interest groups have devoted a high degree of attention to these procedures. Given this internal and external fragility and uncertainty, it is quite plausible that many actors would decide to maintain the status quo that existed before PPS, as reflected in discharge patterns consistent with prior practices.<sup>214</sup> Necessarily, the local availability of post-acute care will also greatly affect the equilibrium at any particular organization.<sup>215</sup>

A fruitful contrast can then be drawn between the DRGs involving hip replacements and those involving psychiatric patients. Psychiatry is near the bottom of the internal totem pole because even the internists, let alone the surgeons, barely elevate it to the category of medicine. Moreover, the therapeutic benefits of inpatient psychiatric care are intensely controversial, except that therapy using pharmacological substances resonates better within the larger medical community. Because inpatient psychiatric benefits are limited by most third-party payers, and because external interests have been asserting increasingly intensive pressure to reduce these services, administrators have great leverage in reducing these lengths of stay, particularly for the less complex cases treated in scatterbeds. Given the internal power equilibrium, administrators might thus achieve relatively greater success than in instances involving hip procedures, and given their knowledge of the insurance benefits available for each discharge, lengths of stay would be expected to vary by the degree of financial pressure imposed upon particular hospitals.<sup>216</sup>

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213. See, e.g., Shortell et al., *supra* note 193, at 602, 604, 621-24 (discussing the relatively greater power of high-volume-admitting, scarce specialists to obstruct changes in the hospital's managerial level and technical core).

214. See Morrisey et al., *supra* note 126, at 693; Gerety, *supra* note 125, at 391.

215. See, e.g., PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 77-79 (tables 3-1 to 3-3), 80; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, WINNERS AND LOSERS UNDER PPS, *supra* note 147, at 7, 9-13, 16-17, 19; LEWIN-ICF, *supra* note 144, at 4-10 to 4-11, 4-16.

216. See, e.g., Frank & Lave, *supra* note 129; Frank et al., *supra* note 90, at 17-19; Lave & Frank, *Factors Affecting Medicaid Patients' Length of Stay in Psychiatric Hospitals*, *supra* note 90; Lave et al., *supra* note 128, at 356-60; Freiman et al., *supra* note 130; Lave & Frank, *Hospital Supply Response to Prospective Payment*, *supra* note 90, at 14-19. There is evidence that nursing homes received psychiatric discharges with increased needs after PPS was implemented. See James H. Swan et al., *Ripple Effects of PPS on Nursing Homes: Swimming or Drowning in the Funding Stream*, 30 GERONTOLOGIST 323, 325-26, 329 (1990).

In contrast, by the time we get to the question of “intensity of care” over a wide range of services, administrators have far less leverage. We might define “intensity of care” to mean the efficiency by which the hospital produces its intermediate products, in which case we have defined away the interesting questions. Everyone inside and outside the hospital can coalesce around this “efficiency,” for there is no threat to professionals’ control over the technical content of their work, and everyone understands this task to be the one that hospital administrators are supposed to perform with the appropriate application of managerial expertise. Similarly, we might again ignore all the interesting questions by defining “intensity of care” to mean the employment level of non-medical staff.<sup>217</sup> Administrators have substantial power regarding employment, and, moreover, a share-the-pain, across-the-board cut in non-medical staff, enacted in a shared panicked response to anticipated federal stinginess, would create relatively few internal disputes regarding division of the negative-sum decrease. If we instead define “intensity” to include the mix of LPNs and RNs,<sup>218</sup> the resistance to cuts becomes stronger, generated by all professional groups in the hospital—except possibly the LPNs—who would bear an increased work load,<sup>219</sup> particularly in the face of the increased case-mix complexity sparked in part by PPS. Cutting the number of high-admitting physicians is of course usually out of the question.<sup>220</sup> Finally, if we enrich our understanding of “intensity of care” to include the practice patterns of physicians—namely, the number and types of intermediate products used and the manner in which physicians package them with the various types of labor in the treatment of individual patients—we have entered the strongest of professional lairs. It should therefore not surprise us that the aggregate evidence regarding the reorganization of the internal and external division of labor, the numbers and types of services used, and the effects on outcomes is equivocal at best.<sup>221</sup> Although selective and very intensive pressure at crucial costs centers like the intensive-care units might be worth the administrative and political capital invested, nothing is more likely to raise the ire of an entire medical staff than a generalized attempt to trammel the individual professional’s control over her patient’s course of treatment. “Productivity,” in the end, falls most directly within the ambit of the medical profession’s control, not so much in an organized corporate sense, but in the sense that all view what they do as

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217. See, e.g., Thorpe & Phelps, *supra* note 84, at 160-63.

218. See, e.g., *id.*

219. See, e.g., Kimberly & Zajac, *supra* note 89, at 295-96.

220. See, e.g., Jensen & Morrissey, *Medical Staff Specialty Mix*, *supra* note 84, at 265 (“With a supply constraint and fixed transaction costs of adding a physician to the staff, a hospital operating under a flat price per case payment arrangement will appoint all technically qualified physicians to its staff in those specialties for which marginal product is increased.”); see also Cowing et al., *supra* note 10, at 272-73. The only constraint preventing unlimited output potential is the restricted supply of such specialties. See Jensen & Morrissey, *Medical Staff Specialty Mix*, *supra* note 84, at 273.

221. See, e.g., Ashby & Altman, *supra* note 111.

the art of clinical judgment rather than cookbook medicine.<sup>222</sup> Almost everyone in almost every hospital understands questions of “productivity” to be evaluative, and no language regarding the “technical efficiency offered by industrial engineering”<sup>223</sup> or “production efficiency”<sup>224</sup> is likely to shake that understanding. Perhaps administrative jawboning to reduce length of stay and service intensity across the board can be marginally effective,<sup>225</sup> but systematic, blunt attempts to interfere in individual clinical judgments are more likely to sink the ship rather than keep it afloat.<sup>226</sup>

By contrast, carefully tailored joint attempts at management in the context of institutional peer review are much more likely to succeed. Clinicians might be more receptive to the information generated by the DRGs when it is used selectively—for example, in the monitoring of admissions<sup>227</sup> or a generalized review of high-volume DRGs<sup>228</sup>—and when it is used primarily within the medical staff’s professional peer-review processes.<sup>229</sup> If the financial pinch effectuated by PPS becomes sufficiently sharp, there might even be greater administrative participation in those processes.<sup>230</sup> However, the monitoring of practice patterns across an entire hospital is one of the most complex, controversial, and uncertain tasks faced by the organization. Therefore, it is highly unlikely that particular goals could be formulated or implemented by

222. For a recent fairly stunning ethnography documenting the connection between this epistemology and clinical training, see KATHRYN M. HUNTER, *DOCTORS’ STORIES: THE NARRATIVE STRUCTURE OF MEDICAL KNOWLEDGE* (1991).

223. See, e.g., Fetter, *supra* note 26, at 8-11.

224. See Seidman & Frank, *supra* note 3, at 157.

225. See Weiner et al., *supra* note 37. Even that conclusion, at least in the Medicare context, would have to be made with great caution, given how equivocal the evidence is concerning changes in length of stay, admissions and intensity.

226. In the extreme, there can be a full-scale revolt:

At [a PPS losing hospital], about 25 percent of the hospital’s key admitters tried to change the current system ownership by undermining the hospital’s financial viability. For example, when administrators attempted to control costs by sharing specific radiologic and pharmaceutical costs with physicians, utilization of the more expensive procedures went up by 30 percent over the next month.

LEWIN-ICF, *supra* note 144, at 5-18.

227. See Noralou P. Roos et al., *Using Diagnosis-Related Groups for Studying Variations in Hospital Admissions*, *HEALTH CARE FINANCING REV.*, Summer 1988, at 53.

228. See LEWIN-ICF, *supra* note 144, at 5-7.

229. This is an instance of professional adaptation, in which professionals make a concession to an increasingly demanding, uncertain and unstable environment but do not surrender professional control over the technical content of work. One must remain

[sensitive to critical forms of functional and hierarchical differentiation within the profession and the institutions that are responsible for insulating practitioners from some of the changes that are taking place and reorganizing their relationships with each other in adaptation to other external changes. . . . Potentially critical pressures have been cushioned by adaptive changes in the organization of the interrelations among members of the profession, changes intended to satisfy the demands of consumers, politicians, and third-party payers without sacrificing overall professional control.

Eliot Freidson, *The Reorganization of the Medical Profession*, 42 *MED. CARE REV.* 11, 23 (1985).

230. See, e.g., Cook et al., *supra* note 89, at 199-201; Shortell et al., *supra* note 88, at 229-30, 257-58; Shortell et al., *supra* note 193, at 600-01, 603, 618, 624-25; Alexander et al., *supra* note 101, at 221, 223-24, 229-33; Burns et al., *supra* note 193, at 530, 532, 534-35, 540-41, 548-49, 556.

means of a centralized and rigidly hierarchical decisionmaking process, as opposed to one that is decentralized and collegial.<sup>231</sup> In the words of Ashmos and McDaniel,

In hospitals, strategic production function decisions about the transformation of inputs into a product or service depend more on the information-processing abilities and judgments of physicians than do other strategic decisions. The fundamental task of hospitals is executed by the application of physicians' expertise and values to problem situations and, therefore, the decision to alter a hospital's fundamental task would depend partly on information possessed by physicians.<sup>232</sup>

In sum, complex and centralized management information systems like the DRGs are very useful for asserting managerial control over activities like coding and charging, but they are much less useful for rationalizing individual practice patterns around organizational goals, to the extent that such goals can even be formulated. Thus, it is unremarkable that nothing in the qualitative literature links the implementation of PPS, or the introduction of "state-of-the-

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231. PPS might cause the oversight process to become increasingly formalized and led by an external and internal professional elite, *see, e.g.*, Eliot Freidson, *The Reorganization of the Professions by Regulation*, 7 LAW & HUM. BEHAV. 279, 287-88 (1983); Eliot Freidson, *The Changing Nature of Professional Control*, 10 ANN. REV. SOC. I, 10-16 (1984), but leadership and formalization should be not equated with centralization and noncollegiality. Instead, it is more likely that there will be an increasingly complex internal and external division of labor, *see, e.g.*, Freidson, *supra* note 229, at 26-31; Eliot Freidson, *The Medical Profession in Transition*, in APPLICATIONS OF SOCIAL SCIENCE TO CLINICAL MEDICINE AND HEALTH POLICY 63, 66, 72 (Linda H. Aiken & David Mechanic eds., 1986), characterized by the involvement of a greater number and types of actors in the monitoring process. Possibly the primary procedural mechanism will be to form a greater number of committees and task forces with diverse memberships. *See, e.g.*, Cook et al., *supra* note 89, at 200; Shortell et al., *supra* note 193, at 600-01, 603, 618, 624-25. However, there are also alternative, much less formal mechanisms. *See, e.g.*, Ashmos & McDaniel, *supra* note 9, at 388 (figure 1). In either case, the primary mode of interaction will be collegial, in combination with greater procedural formalism, *see, e.g.*, Shortell et al., *supra* note 88, at 257, 259; Burns et al., *supra* note 193, at 530, 532, 533-38, 540-41, 545-57; *see also* LEWIN-ICF, *supra* note 144, at 5-7, 5-19 to 5-20, 5-30 to 5-32, that remains nonetheless fluid as to the identity of participants and open to competing modes of evaluation. *See* Ashmos & McDaniel, *supra* note 9. Potentially, there are distinctions to be drawn here correlating different structures or processes with hospital, physician, and market characteristics. *See, e.g.*, Shortell et al., *supra* note 193, at 600-01, 603, 618, 624-25; Alexander et al., *supra* note 101, at 221, 223-24, 229-33; Alexander et al., *Physician Participation in the Administration and Governance of System and Freestanding Hospitals: A Comparison by Type of Ownership*, in FOR-PROFIT ENTERPRISE IN HEALTH CARE 402 (Bradford H. Gray ed., 1986); Burns et al., *supra* note 193, at 530, 532, 533-38, 540-41, 545-57. Space limitations prevent a fuller discussion in this Article.

232. Ashmos & McDaniel, *supra* note 9, at 381. Ashmos and McDaniel's main point is as breathtaking as it is clean-cut: Physicians' participation in attempts to increase efficiency and effectiveness is more important to strategic decision making than physicians' participation in marketing. *See id.* at 381-83, 390-93. I am grateful to Donde P. Ashmos for helping me understand this insight.



art DRG" information and budgeting systems, with "greater cost consciousness" among the medical staff as some collective,<sup>233</sup> or among physicians individually.<sup>234</sup>

Perhaps the most telling points in this regard stem from the recent quantitative and qualitative literature concerning "winning" under PPS—a hospital's PPS revenues exceed its PPS expenses—and "losing" (the opposite).<sup>235</sup> This literature strongly implies that many successful institutions succeeded both before and after PPS and independently of actions taken pursuant to PPS.<sup>236</sup> Previously winning hospitals continued to win under PPS because they were already characterized by a culture in which controlling costs was a legitimate goal:

In the case studies, winning hospitals consistently differed from losing ones by having longstanding commitments to cost containment. They tended to foster these activities both before PPS and in response to it.

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233. See, e.g., Diana Barrett & Paul H. Campbell, *Walking Softly: The Role of Management in Altering Physician Practice Patterns in the Hospital Corporation of America*, 7 *ADVANCES HEALTH ECON. & HEALTH SERVICES RES.* 157 (1987); Campbell & Kane, *supra* note 158.

234. See, e.g., David R. Thomas & Kenneth M. Davis, *Physician Awareness of Cost Under Prospective Reimbursement Systems*, 25 *MED. CARE* 181 (1987).

235. Case studies were conducted by Lewin-ICF, with Stephen Shortell serving as the outside project consultant, under contracts with ProPAC but not under the Commission's direction. See LEWIN-ICF, *supra* note 144. In an effort primarily to explain internal characteristics separating PPS winners from PPS losers, the "case studies examined the hospitals' internal characteristics, management strategies, and responses to PPS." PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 76; see LEWIN-ICF, *supra* note 144, at 1-1 to 1-2, 2-1 to 2-24 (explicating the project's sophisticated design, which utilized cross-sectional and longitudinal qualitative and quantitative analysis). Utilizing the identical conceptual framework, see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 73-74, ProPAC also completed a complementary multivariate analysis. See PROSPECTIVE PAYMENT ASSESSMENT COMM'N, WINNERS AND LOSERS UNDER PPS, *supra* note 147. This quantitative work focused more on the external ecology causing PPS winning and losing, an environment which "sets the stage for hospital operations by defining the resources available in the community, the number of competing providers, and the methods used to pay hospitals." PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 76. The quantitative study thus "attempted to identify the design features of PPS and the environmental and hospital characteristics associated with winning and losing under PPS." PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 75-76.

236. One should of course neither generalize from the case studies, nor believe that the quantitative evidence portrays the internal dynamics of one or more organizations. The evidence is complementary but not conclusive. See PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 75. Additionally, one should not draw conclusions that either the "internal" or "external" factors predominated. See *id.* at 73-74, 93; LEWIN-ICF, *supra* note 144, at E-3, E-16. Finally, it should be noted that reasons for "turn-around"—converting a hospital from a PPS loser to a PPS winner—have not been studied. See LEWIN-ICF, *supra* note 144, at E-3, E-15, 2-19, 6-8. For my purposes, however, the studies are extremely telling. The first proposition I need to support is that the organismic models are inadequate for the formulation of public policy. They do not account for any internal dynamics, much less complicated ones peculiar to individual organizations, and they do not even consider the two-way interaction between an environment and the "organism," particularly the fact that successful organizations often succeed by manipulating the world beyond their boundaries in a manner that creates a tight fit between their organizational distinctiveness and their local circumstances. In all these regards, the studies clearly indicate the superiority of rich and complicated organizational models. The second assertion I need to support is that no evidence links per-case DRG-based payments with the use of the DRGs as the primary, let alone sole, linguistic medium of the hospital, a proposition also supported by the studies.

Also important for winning hospitals was the widespread awareness of the need to control costs, which permeated all levels of the hospital organization. The importance of conservative resource use was communicated by senior management and reinforced by the medical staff support. By contrast, even if a losing hospital had cost controls in place, these were undertaken only in response to poor performance.<sup>237</sup>

Additionally, previously winning hospitals continued to win under PPS due to the quality of their leadership and the cordial, cooperative and productive relationships between medical staffs and administrators:

The case studies revealed that management played a key role in differentiating winning hospitals from losing hospitals. Management at winning hospitals had productive relations with their medical staffs, fully integrating physicians into the hospital's financial decision making. These relationships were facilitated by low turnover rates among senior managers. High turnover made it more difficult for losing hospitals to identify their weaknesses and take corrective actions on a sustained basis.

Winning and losing hospitals also differed in the perspectives and expertise of their leadership. Leaders at winning hospitals appeared to be more innovative in their thinking and to have considered issues in their external environment. Their broader perspective included assessing community needs in defining their objectives and an interest in applying new approaches to old problems. In addition, their leaders better understood their hospitals' financial performance and the factors that drove it. Moreover, their efforts to improve performance were focused on specific activities that were given time to prove their effectiveness. . . . Having specific management objectives, evaluating them, and holding managers accountable for achieving them characterized winning senior management.<sup>238</sup>

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237. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 84; *see* LEWIN-ICF, *supra* note 144, at E-5 to E-9, E-16, 3-4 to 3-5, 3-9, 5-2 to 5-7, 5-10, 5-14 to 5-23, 5-32, 5-36 to 5-38, 5-48 to 5-51, 6-1 to 6-2. "As a result, for winners, meeting PPS incentives only required fine tuning existing systems, not overhauling them." *Id.* at E-8; *see id.* at 5-20 to 5-23, 5-32. The quantitative multivariate study also indicated that PPS winners were relatively productive both before and after PPS. *See* PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 78-79 (tables 3-2 & 3-3), 89-90; PROSPECTIVE PAYMENT ASSESSMENT COMM'N, WINNERS AND LOSERS UNDER PPS, *supra* note 147, at 9-11, 14-18. At these institutions, one finds such phenomena as *physicians* "request[ing] that the price of antibiotics be included on routine antibiotic sensitivity reports," and *physicians* "initiat[ing] an operating room task force to identify ways to decrease supply redundancy." LEWIN-ICF, *supra* note 144, at 5-21.

238. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 84-86; *see* LEWIN-ICF, *supra* note 144, at E-5 to E-9, E-16, 4-13, 5-2 to 5-7, 5-13 to 5-23, 5-36 to 5-38, 5-48 to 5-51, 6-1 to 6-2. It is difficult to conceive of a causal line from per-case DRG-based reimbursement to leadership qualities: "Strength of leadership was determined by a variety of factors including training and expertise, outward

Finally, medical staffs at winning hospitals have been historically characterized by strong leadership, coupled with decentralized and collegial decision making:

The activities at one winning hospital highlight the successful qualities of a medical staff. Annually, all physicians were asked about upcoming capital requirements. The physicians initiated a vigorous peer review process that included paid physician reviewers of medical records. Physicians were heavily involved in multidisciplinary task forces established to address specific problematic resource usage. Efforts to reduce the operating costs of routine clinical decisions, such as the drugs that make up the pharmacy formulary, the use of the intensive care unit . . . , and the resources used in the surgical suites, were commonplace. Strong leadership was seen as key to appropriate peer review and effective mediation between the medical staff and administration.<sup>239</sup>

Even assuming that a culture of cost control, quality leadership, and physicians' commitment to organizational goals could be sparked through a reimbursement system's financial incentives, itself a dubious proposition,<sup>240</sup> there simply is no evidence that these characteristics stem from a per-case payment system based on the DRGs.<sup>241</sup> Winning organizations do successfully monitor

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focus, interest in thinking about new ways of getting things done, ability to monitor and minimize costs without compromising patient care, and success at engaging physician leadership and participation in production efficiency issues . . . ." LEWIN-ICF, *supra* note 144, at E-6.

239. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 87; see LEWIN-ICF, *supra* note 144, at E-5 to E-9, E-16, 5-2 to 5-7, 5-17 to 5-23, 5-30 to 5-32, 5-36 to 5-38, 5-48 to 5-51, 6-1 to 6-2.

240. Most significantly, "the case studies . . . underscore the fact that poor medical staff-administration relations are hard to change. Even new administrations brought in to improve relations or to turn around an institution financially faced a difficult time overcoming longstanding conflicts." PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 87-88; see LEWIN-ICF, *supra* note 144, at 5-15 to 5-19; see also *id.* at E-4 (finding that "while external environments contributed to winning or losing, both internal factors and differences in the ways that management addressed them were judged overall to be more important"). More generally, how could a reimbursement system create such qualities as charisma, interpersonal skills and commitment to organizational goals? See, e.g., Burns et al., *supra* note 193 (finding that organizational commitment is unrelated to the control strategies sparked by PPS); LEWIN-ICF, *supra* note 144, at E-12 (showing that "the problems experienced by each hospital are unique and typically involve difficult cultural, leadership, and inter-personal issues").

241. One can think of strategic adaptation as an interactive process in which an organization examines, changes and implements strategy in order (1) to manipulate, if possible, the environment it perceives; and (2) to alter its perceived internal structure and process to enable this manipulation and to match its particular internal structure and process with particular features of this environment, all the while favoring and attempting to preserve its conception of its uniqueness and individuality, comprised of its mission, philosophy and goals. See generally Kimberly & Zajac, *supra* note 89. The findings in the Lewin-ICF study are consistent with this concept, see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 74-94; LEWIN-ICF, *supra* note 144, at 3-1 to 5-55 (finding that "adapters" were more likely to be PPS winners and that "idlers," "alarmists," and "late bloomers" were more likely to be losers, with some crossover among the categories due to particularly favorable or unfavorable features of the reimbursement, socio-economic or competitive environment). The study also indicates that strong leadership qualities, personal commitment to the institution, and a culture of cost control-gave PPS winners the potential successfully to adapt to the system.

the productivity of their intermediate products;<sup>242</sup> they do watch their costs and reimbursement per payer and their costs relative to peer institutions;<sup>243</sup> and they do utilize data in their peer review processes.<sup>244</sup> The management of a winning institution also does pay attention to PPS.<sup>245</sup> However, none of these actions has been dependent upon the use of a DRG-based information system: "A key factor that distinguished all winners and losers was not

242. Winning hospitals had in place better planning, monitoring, and control systems. They were more likely to use flexible budgeting that set realistic target expenditures and revised these periodically throughout the year to reflect actual volume experience. . . .

In addition, winning hospitals were more likely to aggressively control input costs. Whereas most hospitals benefitted from group purchasing, some winning hospitals pursued multiple group purchasing contracts and then played these against each other to obtain the lowest prices. Inventories were kept low and standardized with the assistance of the medical staff. Physicians, for example, were asked how to streamline the supplies they required and how surgical trays could be standardized across different surgery teams.

Finally, restrained investments in equipment helped to keep unit costs low. Furthermore, winning and losing hospitals differed in their ability to prioritize projects and see them through to completion.

PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 90; *see* LEWIN-ICF, *supra* note 144, at E-9 to E-10, 5-25 to 5-27, 5-36 to 5-38; *see also* PROSPECTIVE PAYMENT ASSESSMENT COMM'N, WINNERS AND LOSER UNDER PPS, *supra* note 147, at 9-11, 14, 17-18.

243. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 90; *see* LEWIN-ICF, *supra* note 144, at E-9 to E-10, 5-38. The case studies also indicated that this type of monitoring did not utilize a comparison of the particular reimbursement for a patient with the costs of that stay. Despite an array of different public and private reimbursement mechanisms, and "[d]espite the recognized different incentives these payment methods created, managers and physicians reported that they did not consider these in treating patients." PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 80; *see* LEWIN-ICF, *supra* note 144, at 4-14 to 4-15, 5-47 to 5-48. These conflicts were regarded as "noise" in the operating environment.

244. Another key difference between winning and losing hospitals was the amount of information shared with physicians. For seven of the 10 winning hospitals, management regarded a high degree of information sharing as one successful way to engage physicians in joint financial responsibility for the hospital. For physicians, this was a way to increase their control over practice decisions that might otherwise be made by management or by third-party utilization review.

PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 91.

245. The case studies also showed that winning managements gave more priority and attention to responding to PPS than their losing counterparts and that these efforts persisted over time. Losing hospitals tended to ignore the advent of PPS either because they were afraid to alienate their physicians by instituting changes or they were confident that the transition to national rates would carry them financially.

*Id.* at 86; *see* LEWIN-ICF, *supra* note 144, at E-9, 5-2 to 5-7. The importance of this attention to PPS, however, should not be overstated:

[S]tudy hospitals did not achieve winning Medicare performance solely because they focussed on Medicare financial performance. Rather, they focussed primarily on total performance (including non-financial measures such as patient satisfaction and quality of care) and secondarily on Medicare performance (if at all). Favorable Medicare performance was achieved because the factors that maximize total performance generally parallel those that maximize Medicare performance (e.g., control of costs, development of new revenue streams, strengthening of physician leadership).

*Id.* at E-16; *see id.* at 4-14 to 4-15, 5-47 to 5-48.

whether their information systems were more or less state-of-the-art, but how well they used information that was available to monitor their performance and improve clinical and financial outcomes."<sup>246</sup> The findings regarding length of stay, the core motivational factor of PPS, are the most telling. Although administrators, in conjunction with medical staffs, did monitor length of stay, the qualitative studies indicated that they carefully tailored their efforts both to focus upon the important DRGs and to respect the prerogatives of individual clinicians.<sup>247</sup> Further, the multivariate study indicated that there is no evidence that they hit the expected norm:

The [multivariate] analysis compared the hospital's actual length of stay with an "expected" length of stay had it treated every case at the national average length of stay for that DRG. Performance was not associated with either the beginning of PPS or the change in expected length of stay between 1984 and 1988. The null result for the change variable may reflect the findings of the case studies. Winning hospitals had implemented programs prior to PPS and therefore did not need to change their behavior in response to it.<sup>248</sup>

In sum, regardless of the viability of a satisficing model, or any other behavioral one, it is at least clear that in this context, the organismic models of rational choice have not provided a strong basis for the formulation of public policy. No one, other than the developers and consultants who market the DRGs,<sup>249</sup> seems able to find the DRG-based product-line management that

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246. LEWIN-ICF, *supra* note 144, at 5-35; see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 90 (the "availability and sophistication of information systems did not differ for winning and losing hospitals").

247. At one winning hospital, for example, the following carefully tailored activities occurred: (1) "the hospital developed 'MD report cards' showing each MD's length of stay by patient"; (2) it studied "variance in lengths of stay and resource use for frequently occurring DRGs and [presented] the results at medical staff meetings"; and (3) the administrator in charge, the Director of Nursing, "and the medical staff president often would sit down jointly with physicians to review charts," focusing on "education rather than punitive action." LEWIN-ICF, *supra* note 144, at 5-7; see *id.* at 5-30 to 5-31. More generally, "[t]hrough variable, the types of reports provided most often included information on overall length of stay; information by DRG or physician was provided less frequently." *Id.* at 5-31.

248. PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 89; see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 147, at 9, 11, 15, 17-18; see also LEWIN-ICF, *supra* note 144, at 4-14 to 4-15. All in all, ProPAC found that the Lewin-ICF study and its multivariate analysis "support the basic philosophy of PPS." *Id.* at 93; see LEWIN-ICF, *supra* note 144, at E-9 to E-10. As I stated at the outset of this Article, it is important to distinguish between the success of PPS as a prospective payment system and its success as a per-case payment system based on the DRGs. If ProPAC meant the former, perhaps it was correct purely as an instrumental matter, although, as it recognized, see PROSPECTIVE PAYMENT ASSESSMENT COMM'N, *supra* note 123, at 75; LEWIN-ICF, *supra* note 144, at 5-40, no evaluative conclusion follows. If ProPAC meant the latter, it was wrong.

249. The DRGs have been a remarkable marketing story. Not only were the developers at Yale able to leverage their ideas into substantial funding domestically, see, e.g., Fetter, *supra* note 45, at 7-8, but there has been a growing market internationally. See generally, THE MIGRATION OF MANAGERIAL INNOVATION: THE DRGS IN WESTERN EUROPE (John R. Kimberly & Gérard de Pourville eds., 1993).

Fetter and his collaborators had in mind, and no one else perceives that DRG-based per-case payment has set in motion a process in which adoption of such systems is in the offing.<sup>250</sup> Therefore, the model's premises are at war with the empirical evidence it has generated, and as an evaluative matter, the underlying prop supporting the normative framework is shaky. In Fetter's conception, efficiency is carefully defined as an organizational process that would mediate between individual and social needs, and the process is dependent upon rational organizational choice over a highly differentiated hospital product, with a delicate constructive tension between forces favoring particular interests and those pushing toward general ones. However, there is nothing to indicate that physicians and managers have structured their relationships around the DRG classifications, that they now view their tasks to be defined by the information embodied in the system, that the classification system is otherwise reflected in the structure or process of the hospital, or that the tasks performed have themselves now changed such that they embody the system.

In short, the fact that everyone in the hospital now speaks "DRG-eeze"<sup>251</sup> does not mean that the DRGs have "colonized the mind"; it seems more like lip service.<sup>252</sup> It is simply fallacious to assume that a new information system,

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250. The DRG boosters often make bold claims about their success. For example, in 1991 Fetter wrote that his DRG-based case management concept "is currently embodied in the management systems and structures of many US hospitals . . . . As administrators and physicians become more familiar with DRGs and DRG applications in hospital management, the full benefits of DRGs, in terms of containing costs and improving quality, are being realized." Fetter, *supra* note 45, at 18-19. He then summarized, at a crude aggregate level, the effects of PPS without establishing the crucial link between those effects and the use of per-case DRG-based reimbursement. *See id.* at 19-22. There is also a substantial consulting industry (and their literature in tow) promoting, with varying degrees of critical distance, the DRGs as management tools. *See, e.g.,* Sherman Folland et al., *Implications of Prospective Payment Under DRGs for Hospital Marketing*, J. HEALTH CARE MARKETING, Dec. 1988, at 29; Frank E. Hemeon III, *Productivity, Cost Accounting, and Information Systems*, TOPICS HEALTH CARE FINANCING, Spring 1989, at 55; Margaret Hottinger, *At Risk: A Look at Managing Medicare Losses*, HEALTHCARE FIN. MGMT., May 1991, at 23; G. Martin Hutter et al., *Creating a Market Strategy for "Brand Loyalty"*, HEALTHCARE FIN. MGMT. 23, Oct. 1991, at 23. One should not confuse these promotional statements with the manner in which hospitals as organizations are reacting to PPS and using DRG-based information systems. An article written in a financing journal in 1989 is illustrative for it follows a typical pattern in the promotional literature. After writing that "[t]here is nothing in the current [financing] literature to suggest widespread application of DRG reporting systems to the productivity process," the author continued by speculating that in her opinion "hospitals and physicians are moving toward case management and productivity systems." Martha D'Erasmus, *Productivity Systems and Diagnosis Related Group Reporting*, TOPICS HEALTH CARE FINANCING, Spring 1989, at 69. The studies by SysteMetrics/McGraw-Hill in 1988 and by Lewin-ICF in 1992 belie this opinion, and I have found nothing to indicate otherwise. Moreover, such an opinion rests on a common confusion. The simple fact that hospital management buys hardware and software for a DRG-based information system in no way indicates that the DRGs have become the hospital's linguistic medium in the way Fetter and his collaborators hoped. The key lies in organizational strategy, structure and process. It remains to be proven through empirical evidence that such dimensions have changed.

251. We can all blame Fred Hafferty for this term, for which I am most grateful.

252. I have borrowed the marvelous phrase, "colonize the mind," from MALCOLM ASHMORE ET AL., *HEALTH AND EFFICIENCY: A SOCIOLOGY OF HEALTH ECONOMICS* 10 (1989). This study, conducted within the tradition of a "micro" version of the sociology of social science, described the interplay between organizational and political dynamics, on the one hand, and a particular vision of social and organizational rationality, on the other. The study concerned the ability of neoclassical health economists to actualize their program for rationalizing the British National Health Service. Ashmore and colleagues showed the

embodied in reimbursement rates or in peer review, will ipso facto cause standards of technical efficiency to become integrated with noninstrumental orientations. Hospitals and their environments are just too rich and too contingent to support such an assumption. Environments are composed of multiple institutions which impose inconsistent evaluative standards upon actors within hospitals.<sup>253</sup> Institutions of the state can and do comprise only part of this environment; PPS and similar regulatory initiatives pull hospitals' actors in the direction of technical efficiency. However, the institutions of the professions, as well as constituencies seeking to preserve hospitals' voluntary missions, steer actors toward noninstrumental goals. Disparate normative standards thus remain available as resources to be used in internal battles—in internal language games<sup>254</sup>—to justify certain types of behavior; an actor vying for authority in a particular circumstance can draw upon the relevant normative standard as a means to justify a desired course of action in that instance.<sup>255</sup> A hospital may indeed turn a unified, more business-like face to the external world in order to satisfy demands for technical efficiency, but simultaneously the organization of work, dominated by professional autonomy, can continue unabated.<sup>256</sup> In particular, “hospitals will adopt management-information

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difficulty, if not impossibility, of actualizing this program. Although the context described by my Article is quite different, Fetter's vision and that described by Ashmore and collaborators are similar. Both represent attempts to construct a “value-free” process in which normative practices will be subject to social and organizational rationalization. Purportedly, the process itself will not affect the “underlying” and “ultimate” norms. However, rationalization under norms of productivity is itself a normative enterprise, for our institutions and our norms are conjoined. Any non-utilitarian theory of proceduralism must allow for the contingency of institutions and the interaction of those institutions with norms, while not reducing one to the other. See, e.g., DAVID SCIULLI, *THEORY OF SOCIETAL CONSTITUTIONALISM: FOUNDATIONS OF A NON-MARXIST CRITICAL THEORY* 107-80, 205-70 (1992).

253. The rest of this paragraph draws on one of the major insights of the new institutionalism. Organizations are indeed dependent upon their environments for resources. However, those resources include not only material means but also competing cognitive belief systems and evaluative standards. Organizations recursively generate these environmental features and respond to them. See generally W. Richard Scott & Elaine V. Backman, *Institutional Theory and the Medical Care Sector*, in *INNOVATIONS IN HEALTH CARE DELIVERY*, *supra* note 210, at 20; Jeffrey A. Alexander & Thomas A. D'Aunno, *Transformation of Institutional Environments: Perspectives on the Corporatization of U.S. Health Care*, in *INNOVATIONS IN HEALTH CARE DELIVERY*, *supra* note 210, at 53. I thank Arnold Kaluzny for steering me toward this collection of essays. For a compact description of this school and its place within social theory, see John W. Meyer et al., *Ontology and Rationalization in the Western Cultural Account*, in *INSTITUTIONAL STRUCTURE: CONSTITUTING STATE, SOCIETY, AND THE INDIVIDUAL* 12 (George M. Thomas et al. eds., 1987).

254. See generally PETER WINCH, *THE IDEA OF A SOCIAL SCIENCE AND ITS RELATION TO PHILOSOPHY* (2d ed. 1990).

255. Following my symbolic interactionist inclinations, I have used the concept of competing external evaluative standards not to describe an organization's response to the environment but to describe internal interaction within the organization. How work is conceived and performed is far more interesting than formal organizational structure. See generally John W. Meyer & Brian Rowan, *Institutionalized Organizations: Formal Structure as Myth and Ceremony*, 83 *AM. J. SOC.* 340 (1977).

256. [H]ealth care organizations will continue to have only loose control and coordination of the work process itself. Although they will present themselves as efficient businesses to meet the expectations of external groups, health care organizations will continue to allow professionals to work autonomously. Administrative procedures and structures established to meet exter-

systems not so much because they can be used to increase efficiency in producing services but because such systems create an image of a sophisticated business."<sup>257</sup>

Fetter's concept of efficiency depends on the interpenetration of the language of the DRGs with action, and there is little evidence of that intermingling. Work in the hospital simply does not embody the language of the DRGs. Because the non-utilitarian ethical ideals could be actualized only if this phenomenon could be invoked, the normative framework cannot currently satisfy its own normative criterion. A defense of the DRG-based payment system might be mounted on a utilitarian definition of efficiency, in which all the interesting questions concerning the aggregation of individual utility or preferences into social ones are simply assumed away.<sup>258</sup> That defense, however, would be a far cry from the original promise of the DRGs. We might wait for future factual developments because, after all, no form of normative discourse is open to empirical falsification. Then again, we might try something new.

#### Conclusion: Integrating the Hospital into the Community Through a Normative Localism

Fetter and his collaborators constructed a very admirable evaluative framework. Rather than cave into utilitarianism without reflection, they conceptualized a framework in which neither the social nor the individual perspective were to be eliminated. In the end, the point of their exercise was not so much to reflect what hospitals were, but to shape what they could be.

I have endeavored to show in this Article that hospitals have not become what the Yale group wanted them to be. I have also discussed powerful conceptual reasons why hospitals can never resemble this vision. Our regulation of our hospitals has become tied to the view that if hospitals are not now homogeneous organisms, they should be pushed in the direction of becoming ones.<sup>259</sup>

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nal demands (for example, quality-assurance committees) will not be closely tied to the production of services.

Alexander & D'Aunno, *supra* note 253, at 77.

257. *Id.*

258. See generally Bernard Williams, *A Critique of Utilitarianism*, in UTILITARIANISM: FOR AND AGAINST 77 (J.J.C. Smart & Bernard Williams eds., 1973); Amartya Sen & Bernard Williams, *Introduction: Utilitarianism and Beyond*, in UTILITARIANISM AND BEYOND 1 (Amartya Sen & Bernard Williams eds., 1982); AMARTYA SEN, ON ETHICS AND ECONOMICS (1987).

259. In a longer work, I have also linked the DRGs with a more generalized movement to make clinical practices homogeneous. See Frankford, *supra* note 13. I agree with the assessment by Kane and Manoukian that the attempt to enclose physicians within the iron cage of rationality spawns its own peculiar forms of irrationality. See Kane & Manoukian, *supra* note 148, at 1382. We need to assert forms of rationality to "ensur[e] an effective health system, one in which power over clinical decision making for specific patients is returned to physicians and the financial limitations of the government do not influence such decisions on a case-by-case basis." *Id.* at 1382. We also need to be sensitive to the possibility that our reimbursement and regulatory systems will further entrench the dominance of the biomedical model and that such further



To a great extent, each hospital is its own ecology, but the very point of the use of DRG-based payments is to eliminate those variations.<sup>260</sup> PPS does recognize legitimate deviations from the norm, but the norm and the allowed variations are managed at such a great conceptual, spatial, and regulatory distance from our hospitals that the regulatory task is essentially unmanageable.<sup>261</sup> For these reasons, there will continue to be a wide gulf separating our federal regulators from those working within actual institutions.

Perhaps it would be more fruitful for public policy if we were to think about hospitals in a different way. Each hospital could be granted its own distinctiveness, while not necessarily the degree of autonomy that existed under cost-based reimbursement. As it now stands, we are trying to make very difficult and complex evaluative choices through the use of very centralized and abstract payment formulae. We might instead utilize a regulatory structure built upon budgeting focused around each different institution. Fetter's basic normative vision would remain intact, but the organizational frameworks of different hospitals could serve as building blocks not as obstacles along the way. The averaging of costs among patients—in other words, the mutual sharing of the burdens of illness—would then be seen, not as a deficit to be overcome, but as a positive virtue. Moreover, the locus of mediating between individual and social interests would be changed, in that we might strive for a “normative localism,” if I might coin a phrase, in which local normative commitments would be conjoined with local institutional arrangements for the formulation

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medicalization will continue to push aside nonmedical ideology and systems of social support. *See generally* Elizabeth A. Binney et al., *Medicalization, Public Policy and the Elderly: Social Services in Jeopardy?*, 30 *SOC. SCI. & MED.* 761 (1990).

260. PPS, therefore, is part of a process by which hospitals are pushed towards isomorphism, a sameness utterly devoid of meaningful evaluative content. *See generally* Paul J. DiMaggio & Walter W. Powell, *The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*, 48 *AM. SOC. REV.* 147 (1983). It is, to use John W. Meyer's phrase, an “orgy of counting,” in which rationalization proceeds under the aegis of productivity—standardization, routinization and formalization as ends rather than means—thereby partially displacing the separate evaluative domain usually preserved for the intrinsic value of human life. *See* John W. Meyer, *Social Environments and Organizational Accounting*, 11 *ACCOUNTING, ORGS. & SOC'Y.* 345, 349-50 (1986). Fortunately, the experience under PPS indicates that such rationalization cannot be complete, for PPS—a massive, centralized effort aimed at homogenization—spawned an equally massive but decentralized reaction by which the force of PPS was blunted. While professionalization may be a co-conspirator among the forces of rationalization, *see, e.g.*, DiMaggio & Powell, *supra*, at 148, 152-54, the experience under PPS shows that professionalism is also part of the resistance in that its aspirations, epistemology and practices are particularistic. *See* Eliot Freidson, *Professionalism as Model and Ideology*, in *LAWYERS' IDEALS/LAWYERS' PRACTICES* 215 (Robert L. Nelson et al. eds., 1992); David M. Frankford, *Professions and the Law*, in *THE CHANGING CHARACTER OF THE MEDICAL PROFESSION: AN INTERNATIONAL PERSPECTIVE* (John B. McKinlay & Frederic W. Hafferty eds., forthcoming 1993). The lifeworld is remarkably resistant to processes of formalization, although the conflict engendered by this process and the resistance it generates is potentially explosive. *See generally* 2 JÜRGEN HABERMAS, *THE THEORY OF COMMUNICATIVE ACTION* 301-73 (Thomas McCarthy trans., 1985). I am grateful to both Kevin Delaney and Arnold Kaluzny for stressing the importance of DiMaggio and Powell's article.

261. *See generally* Frankford, *supra* note 13.

of hospital goals and organization.<sup>262</sup> State and local regulatory frameworks would serve as important mediating institutions, but more importantly, we would utilize local institutional arrangements for the provision of meaningful community input<sup>263</sup> and as means to prevent the continuing erosion of non-medical belief systems and networks of social support. That might be the sort of evaluative framework we need. For now, its fuller elaboration is a subject of later work.

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262. Cf. EZEKIEL J. EMANUEL, *THE ENDS OF HUMAN LIFE: MEDICAL ETHICS IN A LIBERAL POLITY* (1991) (describing local institutions founded on ideals of community).

263. See, e.g., J. David Seay & Robert M. Sigmond, *Community Benefit Standards for Hospitals: Perceptions and Performance*, 5 *FRONTIERS HEALTH SERVICES MGMT.* 3 (1983); Anthony Kovner & Robert M. Sigmond, *A Program To Encourage the Implementation of Community Benefit Standards for Hospitals* (1988) (unpublished grant proposal submitted to the W.K. Kellogg Foundation).