

Hospital employment under revised medicare payment schedules

A preliminary study of the employment effects of medicare payments based on Diagnosis Related Groups suggests that cost-cutting responses by hospitals will result in smaller, more highly skilled staff and a higher proportion of clerical to health care workers

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In the face of declining employment in manufacturing, service sector industries such as health services are expected to offer expanded employment opportunities in the future. More than 900,000 jobs have been added in the health services industry since 1975, making it one of the largest industries in the U.S. economy. Moreover, the number of Americans over 65, who make the greatest use of health care services, is currently approaching 29 million and continues to grow.

Recently, however, the Federal Government has attempted to limit the rise in health care costs by instituting a prospective payment system based on Diagnosis Related Groups, or DRG's. Under the former system, reimbursement for hospital treatment covered by medicare at an acute care hospital¹ was based on the prevailing rates for hospital and physician care in the locality. Hospitals typically recovered the full cost of care for each patient.

Under the new system, payment is based on the average cost of patient care, with hospitals recovering more than the actual cost in some cases, and less in others. Reimbursements are made according to a fee schedule that mandates

specific payments for each of 467 Diagnosis Related Groups. Payment to hospitals for inpatient care is assigned according to four criteria: a patient's principal diagnosis or surgical procedure, whether there is an important secondary diagnosis, the patient's age, and whether or not the patient was alive upon discharge. (An example of a Diagnosis Related Group is DRG 122: Circulatory disorders with acute myocardial infarction; without cardiovascular complications; patient discharged alive.) Each hospital's payment is adjusted for local wage levels.

The payment is expected to cover all costs except those related to staff education and capital expenditures. All direct medical education costs as well as indirect costs are reimbursed separately, as are capital expenses. Moreover, services provided on an outpatient basis or outside an acute care facility are currently exempted from DRG coverage. The DRG schedule is applied to inpatient services rendered to medicare beneficiaries. Therefore, the importance of medicare as a source of hospital revenue varies according to the size and complexity of the medicare caseload. This payment system provides an incentive to reduce costs within acute care hospitals because hospitals receiving medicare payments are permitted to retain any savings but must also absorb any expenses exceeding the scheduled payment rates.

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These attempts to limit the growth of health care costs have begun to affect employment opportunities in several important ways, including the number of jobs, hours of work, skill levels, and mix of occupations. This article is a preliminary report on the way in which human resource use in the hospital sector of the health service industry is responding to current efforts to contain expenditures. The following discussion briefly outlines the economic setting and related changes affecting hospitals, and then describes the strategies that have been adopted by certain Philadelphia hospitals to cope with this environment.

The changing environment

The cost of health care in the United States has risen steadily over the last few decades, increasing from 4.4 percent of gross national product in 1950 to 10 percent in 1984. Payments to hospitals have been the largest component of such expenditures, increasing from about 28 percent of the total in 1950 to just over 40 percent in 1980.² Payments from Medicare, a Federal program established in 1965 to meet the costs of hospital care for elderly or disabled patients, currently amount to 38 percent of all hospital revenues.³

In an effort to slow the growth of medical costs and hold down public expenditures for health care, Congress passed legislation in October 1983 that established a Medicare payment system based on DRG's. DRG's were phased in over a 3-year period beginning the following year. Between January and August 1984, 70 percent of community hospitals came under this pricing system.

Uncertain about the eventual effects of DRG's on revenues and anticipating a need to reduce costs across the board, hospitals with large Medicare caseloads attempted to reduce admissions of less acutely ill patients and shorten hospital stays before the new system was implemented. As a result, the patient census declined sharply at some hospitals, but then recovered somewhat as hospitals became more familiar with the system. In addition, as described below, DRG's and changes in private insurance approaches to health care have encouraged the establishment of nonhospital treatment facilities. Younger or healthier patients may prefer these outpatient alternatives.

The effect of these developments on hospital utilization is reflected in aggregate data. Total admissions, which had already leveled off in 1982 and 1983 for reasons largely unrelated to DRG's, fell sharply—by 4 percent—in 1984. The average length of a hospital stay declined by 2 percent in 1983 and 5.1 percent in 1984.⁴ For Medicare patients, it declined by about 20 percent between 1983 and 1984, from 9.6 to 7.4 days.⁵

Cost containment measures adopted at many facilities slowed the growth in cost per case. Hospital expenses rose only 4.6 percent in 1984 compared with 10.2 percent in 1983, despite the fact that inflationary pressures on hospitals were virtually unchanged.⁶ Medicare payments to hospitals

increased 9 percent in the fiscal year ending June 1985 compared to an average of 19 percent in each of the 3 preceding fiscal years.⁷

Labor costs are the single largest budget item for hospitals, constituting over one-half of operating expenses in most instances.⁸ Many of the cost-cutting strategies which hospitals have adopted are intended to effect savings in this area through reductions in employment or changes in staffing patterns. Thus, despite continued growth in employment in the health service sector, hospital employment turned down for the first time in 1984, with all of the decline occurring in general medical and surgical hospitals.⁹ These are precisely the institutions which are subject to DRG's.

While the effects of DRG's on total hospital employment are reasonably clear, their effect on the mix of occupations and skills is uncertain. There are many possible strategies that hospitals might adopt to adjust to these cost containment measures, each with somewhat different implications for trends in health care employment. Our study focused on the strategies adopted by a number of hospitals located in Philadelphia and explored their human resource implications.

Data for this study were collected in three stages. First, a short, structured questionnaire was distributed to all administrators attending a meeting of the Philadelphia Hospital Personnel Society. This questionnaire asked respondents to classify their hospital's size, type, and specialization and to indicate their own administrative position. It also asked them to indicate for each of a list of occupations whether full-time, part-time, and contract employment was declining, static, or growing in their hospital. Thirteen completed responses were obtained at this meeting. Of the hospitals responding, 10 were private and 3 were public; 10 were teaching institutions and 3 were community hospitals. They ranged in size from 82 to 600 beds with an average size of 257 beds. All of the hospitals were nonprofit.

The second stage of data collection consisted of a series of 1½- to 2-hour personal interviews of seven of the hospital administrators who filled out the initial questionnaire. These interviews, conducted in August and September of 1985, focused on the general employment strategy of the hospital, any changes in strategy in response to DRG's, and the rationale behind adoption of these policies and practices. We also requested more precise estimates of the number or proportion of employees in each employment category added, deleted, or transferred since the implementation of DRG's. Hospitals selected for interviews were chosen to provide as much variation as possible. However, no attempt was made to obtain a representative sample and caution should be exercised in generalizing from these results.

A third aspect of data gathering consisted of using archival data to identify the broader changes in patient census and employment in all Philadelphia area hospitals. This enabled us to place the responses of interviewees into a more general context.

Effects of DRG's uneven

Just as their counterparts elsewhere, Philadelphia area hospitals began preparing for the implementation of DRG's even before the authorizing legislation had been passed. In the view of some of the hospital administrators interviewed, the initial response at many institutions was an overreaction to the prospect of a fixed fee schedule. With 2 years of experience since passage of the legislation, the administrators believed that reactions had moderated, although the extent and difficulty of required adjustment varied widely among hospitals.

An overview of pertinent hospital operations in the Philadelphia area can provide useful perspective for interpreting these and other responses to our study. Admissions for the 90 Philadelphia area hospitals (including those in the New Jersey suburbs) declined nominally from 325,966 in late 1982 to 325,733 in late 1983, then rose to 326,943 by 1984.¹⁰ Philadelphia's experience in this respect differs sharply from that of the Nation as a whole, which experienced an unprecedented decline in admissions in 1984. Reasons for this difference include the relatively high proportion of elderly people in the Philadelphia area, the substantial number of referrals from outside the area to major medical centers in Philadelphia, and the below-average enrollments of health maintenance organizations (HMO's) in the area.

While admissions remained essentially stable in Philadelphia, hospital stays were shortened. Length of stay in acute care hospitals declined steadily from 8.8 days at the end of 1982 to 7.5 days in 1984.¹¹ The combination of stable admissions and declining length of stay enabled Philadelphia hospitals to earn record income while containing costs. Of the 60 hospitals in Philadelphia and its Pennsylvania suburbs, all but three were in the black for the fiscal year ending June 30, 1985. The five hospitals with the highest net income included a children's hospital, a community hospital, and three teaching hospitals. Taken together, the 60 Philadelphia hospitals had income exceeding \$165 million on revenue of more than \$3 billion.¹²

While DRG's provide incentives to all hospitals to decrease length of hospital stay and to compensate for the decrease in bed occupancy rates by increasing the volume of admissions, the effects are very uneven across institutions. The employment impact depends, in part, on the extent to which the hospital is affected by DRG's and the size of the hospital's medicare caseload. DRG's currently do not apply to specialty hospitals, which do not provide acute care. These include psychiatric institutions, drug and alcohol treatment centers, and physical rehabilitation facilities. Children's hospitals are also waived under present regulations. Cost containment pressures thus are far less severe in these institutions than in acute care hospitals. Nevertheless, specialty hospitals are responding to a number of pressures for change. These include the expectation that coverage by

DRG's will eventually be extended to them, incentives from private health insurers to reduce costs, greater acceptance by patients of less expensive outpatient care, and increased competition from freestanding, specialized facilities established by acute care hospitals to avoid DRG coverage.

One speciality hospital we examined had initiated a study of how it should respond to the impact of DRG's. As a result of what it had learned by the time of the interview, this hospital had taken steps to become an outpatient surgery facility. It had arranged for an acute care hospital to take its more seriously ill patients and had already converted an entire inpatient floor to day surgery. Because of these measures and the increasingly competitive environment in which the hospital operates, the inpatient census at this facility was at 40-percent occupancy in 1985, compared with 56 percent a year earlier. However, the outpatient service increased over the same period: outpatient visits increased 8.4 percent between fiscal years 1984 and 1985 while outpatient surgical procedures increased 19.7 percent over the same period.

In this hospital, the effect on employment levels had been minimal, although employees had been shifted from inpatient to outpatient care. The nursing staff remained stable between 1983 and 1985, with 82 registered nurses (of whom 76 work full time), 14 nurse's aides, and no licensed practical nurses. The number of ward clerks in patient care units decreased from 16 to 12 over that period. However, total clerical employment also remained stable at about 41, because three positions for coder-abstractors (currently filled by temporary workers) have been added in the medical records department. The number of people employed as medical technicians, secretaries, and administrators remained unchanged.

The hospital anticipated reduced labor requirements in areas such as dietary, housekeeping, and maintenance services as the shift from inpatient to outpatient care proceeds, but this had not occurred at the time of the interview. Employment in the service unit, which numbered about 125 in 1983, had been reduced by two full-time-equivalent positions, and there had been a moderate shift toward more part-time staff in this area. The only employment growth anticipated by this hospital was in the medical records department, which at the time was burdened by the increase in the number of people seen as outpatients. A systems analyst position was expected to be added and two or three clerical positions were to be made permanent when an evaluation of medical records operations was completed.

Separate reimbursement for medical education expenses under the DRG payment system has had differential effects on the revenues of teaching and nonteaching hospitals. Payments for direct education costs are based on actual cost, while those for indirect costs depend on the size of house staff, the number of beds, and the total payment from medicare. It has been estimated that adjustments for indirect teaching costs increase the payments to teaching hospitals with one or more interns or residents for every four beds by

an average of 53 percent, while combined adjustments for direct and indirect medical education costs approximately double the reimbursement to a teaching hospital compared with the DRG payment per case to a nonteaching hospital.¹³ In part, these increased payments are intended by medicare to compensate teaching hospitals for the greater severity of the illnesses they treat and for the free care they provide to patients with no medical coverage, although other hospitals with acutely ill patients or which provide free medical services receive no such compensation. The result of this payment system has been to encourage teaching hospitals to categorize expenditures as direct educational costs whenever possible and to shield their revenues from the effects of DRG's.

The administrator of one very large teaching hospital stated that DRG's were having negligible effects on admissions, length of stay, and occupancy. This hospital's 1984 occupancy rate exceeded 79 percent, compared with an average of 73.4 percent for other medical school hospitals and 69.3 percent for other acute care hospitals in the region.¹⁴ Not surprisingly, DRG's had not affected employment levels at this hospital at the time of our study and were viewed by the respondent as only one among many factors affecting decisions about human resource use. However, a second medical school hospital administrator stated that his institution was already initiating changes to increase volume of admissions and reduce length of stay in anticipation of cutbacks in medicare payments for educational costs. (At the time of our interview, the Advisory Council on Medicare had already proposed to Congress that these payments be terminated by 1987.)

In general, the hospitals with revenues most adversely affected by the DRG payment system were acute care community hospitals, especially those serving an elderly or poor population. The reasons for this are implicit in the type of diagnosis-based, per-case reimbursement system which medicare has adopted. The DRG system uses limited information in assigning a patient to one of its 467 categories. In particular, it largely ignores the severity of the illness in making an assignment and it ignores socioeconomic characteristics of the patient that may affect the number of complications and thus the cost of treatment. In addition, no allowance is made under DRG's for free medical care provided to those unable to pay for services.

A study conducted at Johns Hopkins found that teaching status of a hospital did not necessarily predict the severity of illness of its patient population. Some nonteaching community hospitals have severe case mixes despite their low resident-to-bed ratio. These hospitals receive little reimbursement from medicare for educational costs to offset their higher than average treatment costs.¹⁵ The greatest pressures for cost containment, and the greatest challenges to hospitals that want to maintain the quality of, and access to, their services, occur in this category.

The hospital in which we observed the greatest effect of DRG's was a community hospital that had responded to what

it termed "the Federal mandate for quality health care" in the 1960's and 1970's by gearing up to provide care for the poor and the aged. At the time of the study, 60 percent of its patients were on medicare. The hospital had responded to the medicare revenue cuts that accompanied the implementation of DRG's with a concerted cost containment effort. Most obvious was the reduction in average length of patient stay from 10 days to 7.2 days between 1983 and 1985. In contrast, the average length of stay at acute care hospitals in the Philadelphia area had fallen from 8.8 days to 7.5 days over the same period.¹⁶ In this hospital's view, the longer average length of stay for its patients in 1983 was due to the fact that recovery takes longer when the patient population is older and poorer, not to inefficiencies in the hospital's operations. This contrasts with medicare's underlying assumption that all cost differences in treating patients in the same Diagnosis Related Group result from differences in efficiency among hospitals. Under extreme pressure to reduce costs, this hospital had brought its average length of stay in line with the Philadelphia average. As a result, the hospital's patient census had declined more than 15 percent since 1983, yielding its 1985 occupancy rate of 62 percent.

Anticipating the implementation of DRG's, in 1983 this hospital obtained a 2-year grant to study the effects of DRG's on the lives of the elderly. Preliminary results suggested that while there had been no increase in medical risk, more than 54 percent of the 200 patients interviewed in the first year indicated a fear that they were returning home too early in their recovery. The hospital was concerned about the social and psychological stress to which these elderly patients are being exposed, the adequacy of care available to elderly people living alone, and the stress placed on relatives asked to care for these patients.

Strategies for coping with DRG's

Strategies to adjust to the changing financial environment can be divided into three categories—strategies for "beating the system," marketing strategies, and human resource strategies. Strategies in the first two categories also have consequences for human resource use, even though these practices are not adopted specifically as human resource strategies.

"Beating the system." The uneven effects of DRG's on hospitals and the complex economic incentives the payment system provides have led hospitals to adopt a variety of strategies for maximizing income under the new rules. These include such obvious tactics as identifying combinations of patient diagnoses that maximize payments and choosing the principal diagnosis or procedure carefully to achieve the same end. These practices were aggressively pursued at all of the hospitals we observed. Training was provided for personnel ranging from doctors to medical records clerks in assigning diagnoses to the DRG category that yields the most revenue for the hospital. This practice

may have contributed to the increase in recent years in the case mix index—a national measure of the severity of patient illnesses—which is rising much more rapidly than expected,¹⁷ although acuity levels at hospitals are increasing as less ill patients are treated at outpatient, rehabilitation, or other facilities. In addition, separate payments by medicare for capital expenses favor the use of capital intensive techniques. They also encourage hospitals to experiment with equipment leasing and innovative accounting procedures to qualify for reimbursement for capital expenditures.

Partly as a result of the favored status afforded capital intensive techniques under DRG's, some hospitals have continued to add employees in high technology specialties. Four of the hospitals at which we interviewed cited recent or anticipated employment growth in radiology, ultrasound, magnetic resonance, CAT-scan, nuclear medicine, and nuclear studies in cardiology. Between 5 and 10 technician or technologist positions had been added at these hospitals in 1984 and similar employment growth was anticipated for 1985. Competition for individuals highly credentialed in these areas is keen, and some hospitals had had to offer higher starting wages in order to recruit such workers, and to renegotiate contracts in order to retain them. One hospital reported retraining existing personnel to fill some of these positions.

Employment growth in technical specialties was far outpaced by the number of new clerical and administrative positions added in medical records, billing, and related departments in response to DRG's. All of the hospitals we observed had increased employment in these areas. Administering DRG's to yield the highest payment for each patient had caused one hospital at which there were substantial cutbacks in patient care personnel to increase the numbers of medical record administrators, technicians, and clerks; to add three programmers; and to employ an additional admitting officer, financial analyst, manager of financial planning, and several accountants. Another hospital which had reduced the number of licensed practical nurses and nurse's aides by more than 30 positions between 1983 and 1985 reported large employment increases in billing, data processing, medical records, and utilization review over the same period. The billing department alone had grown from 40 to 60 people, while the number of coders in medical records rose from 17 to 25. The hospital also reported having retrained clerical employees to choose the best diagnosis financially while conforming to regulations.

Marketing strategies. Marketing strategies at the hospitals where we interviewed were two-pronged. The hospitals had made significant efforts to increase admissions. They had also developed marketing strategies that focused on procedures, populations, and services for which DRG limits are less constraining.

To increase admissions, and to target the populations they wish to admit, hospitals throughout the country are compet-

ing for patients through direct marketing and advertising activities. The hospitals we visited were making increased use of marketing consultants, and some institutions had hired or were planning to hire marketing directors.

Hospitals are also courting physicians. Four of the acute care hospitals we studied reported that they were increasing the number of attending physicians. Some were encouraging attending doctors to form health maintenance organizations. More often, hospitals today are encouraging doctors to form professional associations to provide specialized services such as radiology within the hospital on a private, for-profit contract basis. This practice appeared to be widespread in the two teaching hospitals we observed, extending beyond medical imaging and anaesthesiology to include such unlikely specialties as dermatology. Other hospitals had also developed such subcontract arrangements or were discussing them for medical specialties as diverse as biomedical services, urology, and the short procedures unit, in which outpatient surgery is conducted. In return, the hospitals expected doctors with whom they have such arrangements to admit more patients.

To escape the constraints of DRG's, and in response to private health insurance incentives for avoiding inpatient care as well, hospitals are increasing the provision of services not covered by these regulations. The most common strategy is to enlarge the short procedures unit and to shift from inpatient to outpatient services. In some of our study cases, entire floors or units had been shut down and the personnel reassigned or released. Some of these hospitals were establishing new, independent units to provide psychiatric, physical rehabilitation, or drug and alcohol treatment outside the acute care facility. Such units are exempted from DRG coverage. Home health care is another new service with which hospitals were experimenting.

Another strategy used by hospitals to increase revenues is to attract specific types of patients who will make relatively less use of the hospitals' resources than other patients within the same DRG. A recent study confirms the fact that patients with the same diagnosis may be more or less acutely ill. In a related study comparing reimbursement rates with the actual extent or severity of illness, researchers found both substantial overpayments and underpayments. Some institutions received payments that were as much as 59 percent too high and others received 25 percent too little in relation to the burden of illness and the actual costs of treating their patients.¹⁸

Hospitals prefer patients who are younger or are in sociodemographic groups that are likely to have fewer complications and shorter hospital stays. They also prefer patients with private insurance coverage which does not rely on DRG-type reimbursement policies. In addition, hospitals have identified those diseases which are profitable for them under the DRG system, and they seek to increase admissions of patients with these ailments. Treating the right type of patient increases the "contribution margin" to the hospital,

raising the difference between what hospitals are paid for treating the patient and the actual variable cost of the care. A leading management consulting firm has prepared what it labels "a survival guide for the hospital industry," in which hospitals are advised that they must determine their "winners" and "losers"—that is, those DRG's that are most and least profitable; identify the types of patients that provide the greatest contribution margin and target them; and decide which physicians should be encouraged to use hospital resources.¹⁹

For persons concerned about the wide availability of quality health care, the benefits of marketing strategies are not always clear. One hospital administrator cited unproductive competition with suburban hospitals for attending physicians and patient admissions in categories where costs are below average. A respondent at a rehabilitation hospital pointed to a shift in workers and other resources from an older facility in a lower income, black community to a newer center in a middle income, white neighborhood. While the hospitals at which we interviewed, especially the community hospitals, expressed a continuing commitment to providing medical care to those who need it, the practice of using marketing strategies to attract a preferred patient population raises troubling questions about access for persons requiring hospital stays that exceed the average or for those who lack medical insurance coverage.

All of these marketing strategies have implications for human resource use. This was most evident at a speciality hospital we observed where a new administration decided last January to take steps to run the hospital more like a business. In addition to 13 positions, including 10 office and clerical jobs that had already been added in 1984, 35 new positions were approved for 1985. The new positions included a director of development, an insurance liaison person, an admissions liaison person, and a coordinator to test-market potential products.

In general, we found that the medical records department had grown at each of the hospitals we visited. Greater use of outpatient facilities and short procedures units has increased the number of patient visits, and hence the number of bills that must be sent to patients. At one medium-sized hospital, not only had there been a shift from inpatient to outpatient care but the hospital's general practice department had become part of a health maintenance organization. The resulting increase in billing requirements had led to a marked increase in employment in the billing department.

The establishment of freestanding units to provide specialized treatment outside the hospital and the subcontracting of hospital services to professional associations of doctors had affected the number of workers officially counted on hospital payrolls, although the effect on actual employment was less clear. Doctors in these situations negotiated with hospitals over the sharing of expenses and over whether the staff in their facilities would be employees of the doctors or of the hospital. We found that where hospitals were not

unionized, workers were often considered employees of the doctors. The hospital would prepare the payroll and send out paychecks, but the workers were not carried on the hospital's employment rolls.

Labor force strategies. Responding to DRG's through the use of human resource strategies, Philadelphia hospitals were attempting to reduce labor costs while avoiding widespread layoffs. Layoffs had occurred at some hospitals, but most of the reported reductions in staff at the hospitals we visited had been accomplished through attrition and incentives for early retirement. One hospital, adjusting to a decline in its occupancy rate of 20 percentage points as a result of a reduction in average length of stay from 10 to 7 days, had found it necessary to reduce its staff by 111 positions. First, retirement incentives were made available at all vertical levels of the employment structure, although the hospital found that this option appealed mainly to less skilled, lower paid workers. As a result, 31 people retired early. The second stage of the reduction was accomplished by laying off workers over a 5-month period in 1985. Such workers were given preemptive rights to return—that is, they were hired back as others left voluntarily and jobs for which they were qualified opened up. By the end of 1985, only 9 people remained on the layoff list, the rest having been rehired in the course of normal turnover.

While only two hospitals had found it necessary to lay workers off, all of the hospital administrators interviewed reported having used attrition to achieve targeted reductions in staff. Selective cutbacks through attrition had been accomplished at every employment level including administration, although most reductions had occurred among less skilled nursing staff. If targets were not met by the end of the fiscal year (June 1986), some hospitals anticipated using layoffs to reach employment goals.

Attrition is a viable strategy for hospitals because of the high turnover that characterizes many of them. One large hospital we visited, with approximately 3,200 employees, reported turnover of about 17 percent in fiscal 1984 and 23 percent in fiscal 1985. This occasioned the hiring of about 950 new workers in 1984, and about 750 in 1985. Thus, there had been extensive hiring at this hospital despite a reduction in staff of more than 100 positions during fiscal 1985. Several medium-sized hospitals reported reductions in staff through attrition of up to 100 positions over the preceding 2 fiscal years.

Despite the use of retirement incentives, attrition, and occasional layoffs, hospitals were not planning across-the-board reductions in staff. Most of the hospitals we visited had conducted detailed studies of staffing needs and had set employment targets for each department, including increases in some areas and reductions in others. This had involved considerable shifting of employees among departments. The closing of entire inpatient nursing floors and the scaling down of some programs at the hospitals had been

accompanied by expansion of short procedures units and other outpatient facilities.

Nurses and ward clerks had been shifted from inpatient to outpatient care. One hospital reported that about 70 percent of those displaced from inpatient care had been reabsorbed in this way. Another hospital had found that shifting nurses from the nursing floor to day surgery required a new orientation and specialized training; staff nurses had been given the option of getting the training in order to retain their jobs. The most unusual reassignment we observed occurred at a hospital where requirements for less skilled nurses were declining while the need for clerical workers was increasing. The administration had given licensed practical nurses the option of shifting to clerical work. Several nurses had taken advantage of the offer and had made the change quite successfully.

Engineering and maintenance requirements remained virtually unchanged as hospitals adjusted to DRG's, and house-keeping services experienced about a 10-percent decline in employment. However, several hospitals reported that they had not filled all of the positions in these departments lost through attrition.

Only food service requirements had consistently and markedly declined as a result of the decline in inpatient census and the increase in outpatient services. One hospital reported making shifts in the assignment of nonunion employees in this area, but not for those who were unionized.

Hospitals are also adopting a variety of human resource strategies that increase their flexibility in using their employees. One notable development, emphasized by all but one of the hospitals we observed, is increased reliance on registered nurses, especially those with Bachelor of Science in Nursing degrees, and reduced employment of nurse's aides and licensed practical nurses. Reducing the length of hospital stays during the recuperative period means that patients who are in hospitals are more acutely ill, with the result that more skilled nursing care is required.

Most of the hospital administrators we interviewed believed that it is inefficient to continue to use licensed practical nurses and nurse's aides, who are limited in the tasks they can perform. One hospital had already eliminated all licensed practical nurses. Only one community hospital administrator, sorely pressed by DRG's, took the position that registered nurses should be used to provide professional nursing services only, while auxiliary services should be provided by lower paid licensed practical nurses and aides.

The result is that many of the hospitals we visited were maintaining employment levels for registered nurses and graduate nurses (and some were even recruiting in this area) because such nurses can provide the entire range of nursing services. At the same time, there had been cutbacks in the less skilled nursing positions. One hospital reported having laid off 17 workers in July 1984 and the same number the following October. Most of those laid off were nurse's aides. Cutbacks at other hospitals had been less

extreme, but several reported no new hiring of aides or licensed practical nurses within the last 6 months of the interview, and no future plans to hire them.

Some hospitals reported having instituted, or considered establishing, internal labor pools to increase flexibility in assigning workers to departments where they are needed. Such a strategy usually is intended to avoid layoffs and increased use of part-time workers. The underlying premise, viewed as still unproven by most of the administrators we interviewed, is that one department is busy while another has down time. The argument is that down time can be reduced and productivity increased by assigning people of like educational attainment to a labor pool, rather than to a department, and cross training them to do a variety of jobs. Workers can then be assigned from the pool to a department as needed. Several hospitals had begun (or were considering) using a labor pool to staff less skilled jobs in house-keeping, grounds, maintenance, food service, and transport.

A few hospitals were coping with fluctuations in admissions and swings in patient census by establishing nursing pools. Nurses who do not want, cannot find, or are not needed by the hospital for full-time employment are carried on the rolls of the hospital's nursing pool and called in to work by the day. One medium-sized hospital with 155 registered nurses and graduate nurses on the floor, another 15 in education, administration and supervision, and about 25 licensed practical nurses and 35 aides, had a nursing pool of about 80, of whom no more than 30 were actively contacted by the hospital on an average day. The people in this pool were not reported as hospital employees in employment statistics kept by the institution. They were paid a straight wage for the days they worked and received no fringe benefits. They became eligible for a pension if they worked more than 1,000 hours in any year, so the hospital attempted to keep their employment under this level.

Another hospital, unable to fully employ all of its nurses in the face of the decline in its patient census, operated a different type of nursing pool in which everyone is a hospital employee and is guaranteed work every day but not necessarily at the hospital. The hospital operated the nursing pool as a temporary help service, sending the nurses it did not require on any given day out to nursing homes or other facilities, as needed. This pool had, in fact, become a "profit center" for the hospital.

Several hospitals had small clerical pools as well. At one, a pool of five clerical workers was treated as belonging to the employee relations department. These workers, who were viewed as permanent employees of the hospital, were called in as needed and charged to whatever department used them. The hospital treated them as part-time workers.

Several alternative strategies for reducing labor costs which we expected to find were notable by their absence. In general, the hospitals we observed had made only limited use of part-time employment to increase flexibility in work assignments. Perhaps 10 percent of employees at these

hospitals work part time, usually in food service and in weekend nursing services. One hospital had gone from two full-time shifts in food service to one full-time and one part-time shift. Other hospitals reported that about a third of their food service workers were part time.

Weekend nursing services have traditionally employed part time registered nurses, licensed practical nurses, and aides who wanted those hours. Today, fewer patients remain in the hospital on weekends. But hospitals are providing additional outpatient services on weekends and evenings in order to meet increased competition from freestanding facilities. One hospital we visited had begun providing physical therapy and respiratory therapy at those hours.

In recent years, hospitals have also begun making part-time work available to physical therapists, who are currently in short supply, in order to make the jobs attractive. Apparently, a substantial number of physical therapists do not want full-time work and are able, in the current market, to command the hours they desire. The net effect of this trend on part-time employment among the hospitals we visited had been small.

None of the seven hospitals we observed had increased the responsibilities of lower paid workers in order to economize on the use of more highly skilled and higher paid staff. On the contrary, they sought to hire the most highly credentialed workers available. This was especially evident in nursing, where the proportion of registered nurses was increasing and the nurses were being asked to perform the entire spectrum of nursing services, but it applied to technicians and therapists as well. Hospital administrators reported that greater cost savings are realized as a result of the flexibility provided by a smaller staff of highly skilled workers than through an increase in the proportion and responsibilities of lower paid workers.

Hospitals do make use of temporary workers, mainly in nursing services and, to a lesser extent, in clerical work. But the hospitals we observed made only occasional use of temporary help service agencies. Instead, they preferred to contract with individuals for these services, forming their own internal pools of temporary workers. Often, the workers in these pools previously held full-time positions at the hospitals, but for personal reasons came to prefer fewer hours. Other workers in the pools may desire full-time jobs at a particular hospital and view the pool as a way of getting preferential treatment should an opening arise. Sometimes the pool was established as an alternative to laying off workers entirely.

In general, the hospitals in our survey did very little contracting out of services. None of the hospitals we visited contracted out services such as food service, housekeeping, groundskeeping, or maintenance. One hospital was contracting out electrical services at the time of the interview but planned to hire its own electrician shortly. Another hospital was contracting out food service in the employee and visitor cafeterias, but not its inpatient food service. The

hospital administrators we interviewed rejected the use of temporary help agencies or of contract services because they believed there are hidden or long-run costs associated with the use of workers who are not their own employees. Because pay at these hospitals rose during the 1970's, the administrators no longer viewed their institutions as employers of last resort. Quality of employees at every level was higher by the mid 1980's than it had been 10 or 15 years earlier, and respondent hospitals thus were reluctant to surrender control over this employment to outside agencies.

Implications for employment outlook

According to our study, implementation of a prospective payment system by medicare had an immediate effect on employment in acute care community hospitals most directly affected by DRG's. Cutbacks in employment in these facilities have largely been in patient care occupations. They are associated with the reduction in length of hospital stay and with the incentives for cost containment implicit in a system which allows hospitals to retain the difference between scheduled prospective payments and the actual costs of providing health care services.

Employment growth was centered in occupations associated with hospital efforts to prosper under DRG's by increasing admissions, targeting a preferred patient population, coding patient diagnoses so they are most financially remunerative, increasing the use of capital intensive procedures for which payment is more easily obtained, and establishing or expanding treatment facilities and services that are not yet covered by the payment system. In our interviews, we observed only small changes in employment in the specialty and teaching hospitals, which are less severely constrained by DRG regulations. However, all but one of these hospitals were expecting that future regulatory changes would directly affect them. They reported that they were exploring the use of (and, in one instance, were actively utilizing) the marketing and human resource strategies that acute care community hospitals had adopted during the 2 years preceding our study.

In direct patient care occupations, the overall employment of registered nurses and graduate nurses was stable, although there had been a definite shift in location of a substantial proportion of these jobs to short procedures units, outpatient services, offsite specialty units, or freestanding facilities in more prosperous communities. The employment of licensed practical nurses and nurse's aides was declining, while a few specific technical specialties benefiting from DRG regulations were experiencing small increases. Physical therapists, who benefit from the exemption from DRG coverage of rehabilitation facilities, were also facing a high demand for their services.

In support service occupations, those concerned with the maintenance of physical facilities had experienced stable employment, though hiring was limited to replacement only and was sometimes sluggish. Support service occupations

that depend on the hospital's inpatient census, such as food service, housekeeping, and patient transport, were declining. Food service occupations were the hardest hit, and some workers in this area who did retain their jobs had had their hours reduced.

The largest increases had occurred in administrative and administrative support occupations. We observed small increases in positions for upper level administrators with skills in marketing, product development, finance, and DRG administration. These had been filled through outside hiring. Larger increases were reported in clerical occupations in billing and medical records, especially in occupations related to DRG reporting requirements. These positions had sometimes been filled through outside hiring. Often, however, they had been staffed through transfers within the hospital from departments experiencing cutbacks.

Our limited data suggest that the major impact of the decline in hospital employment is being felt in the less skilled, traditionally female occupations such as licensed practical nurses, nurse's aides, and food service workers. A case study of hospitals such as this does not provide information on whether workers displaced from hospital employment are finding jobs in nursing homes, home health services, or other health service facilities. Even if this is the case, however, displaced workers are unlikely to find jobs that pay as well or provide as many hours of work as those they previously held. Hospital administrators with contracts with home health care agencies or who were developing this service themselves reported that the position of home health care aide is becoming more skilled than that of a nurse's aide in a hospital setting because there is less direct supervision. Yet the job pays about \$3.35 to \$5 an hour, about half the hospital pay scale for nurse's aides, and the hours, which are not dependable, may vary from 10 to 40 a week.

Our findings also suggest that while high turnover and the continued need to fill a few specialized positions precludes a hiring freeze at hospitals, very little net growth in employment in the hospital component of the health services sector can be anticipated in the next few years. This is especially true of acute care institutions. We also noted a shift in the composition of the nursing staff at hospitals toward graduate and registered nurses, whose numbers were stable or growing slightly. This appears to be the result of both the thrust within nursing for professionalization and the desire of hospitals to operate with a nursing staff that is smaller overall but more highly skilled and flexible. The preference for more highly skilled workers was apparent as well in other occupations at the hospitals we observed. These hospitals were continuing to recruit employees with training in specialized technical procedures and those with traditional business specialties such as marketing and finance.

Our method addresses the proximate effects of DRG's on hospital employment. However, it does not allow an analysis of overall employment effects in health services as full adjustment to the new payment plan is undertaken. Many questions remain. These include whether displaced licensed practical nurses and nurse's aides are finding alternative employment in nursing homes and home health care; whether the stresses on families caring for elderly patients at home are creating unrecognized increases in the demand for psychological and social work services; and what the effect will be on the demand for health services provided outside of hospital facilities. However, our case study of a small number of hospitals strongly suggests that DRG's are triggering changes in hospital employment and in the delivery of medical care that are having major spillover effects elsewhere in the health services sector and, perhaps, in the larger economy. □

—FOOTNOTES—

¹ For purposes of program administration, an "acute care hospital" is defined by exception; that is, a facility is considered an acute care hospital unless it falls within a category specifically excluded from the program by law, such as an alcohol rehabilitation center. However, the term may be approximated by the American Hospital Association's definition of "community hospitals": Non-Federal, short-term general and other special hospitals, excluding hospital units of institutions, whose facilities and services are available to the public. See *Hospital Statistics, 1985 Edition* (Chicago, American Hospital Association, 1985), p. xi.

² R. R. Arons, *The New Economics of Health Care: DRG's, Case Mix, and Length of Stay* (New York, Praeger Publishers, 1984), pp. 4 and 114.

³ "Health Care Costs: The Fever Breaks," *Business Week*, Oct. 21, 1985, pp. 86-94.

⁴ "1984 Hospital Cost and Utilization Trends," *Economic Trends* (Hospital Research and Educational Trust), Spring 1985.

⁵ R. Sullivan, "Decline in Hospital Use Tied to New U.S. Policies," *The New York Times*, Apr. 16, 1985, p. A1.

⁶ "1984 Hospital Cost."

⁷ "Health Care Costs," p. 86.

⁸ D. Kidder and D. Sullivan, "Hospital Payroll Costs, Productivity, and Employment Under Prospective Reimbursement," *Health Care Financing*

Review, December 1982, pp. 89-99.

⁹ *Employment and Earnings* (Bureau of Labor Statistics), various issues, table B2.

¹⁰ Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*, for the period July 1 to Dec. 31, 1984.

¹¹ *Ibid.*

¹² G. M. Gaul, "Diagnosis for Hospitals: Good Financial Health," *The Philadelphia Inquirer*, Nov. 17, 1985, p. D1.

¹³ R. S. Stern and A. M. Epstein, "Institutional Responses to Prospective Payment Based on Diagnosis-Related Groups," *The New England Journal of Medicine*, Mar. 7, 1985, pp. 621-27.

¹⁴ Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*.

¹⁵ "DRG Disbursement," *Medical World News*, July 22, 1985, pp. 50-51.

¹⁶ Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*.

¹⁷ Stern and Epstein, "Institutional Responses."

¹⁸ "DRG Disbursement," p. 51.

¹⁹ Arthur Young, *Prospective Payment Survival Guide*.