Care for the chronically ill: Nursing home incentive payment experiment

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Nursing home reinbursement systems which do not adjust payment levels to patient care needs lead to access problems for heavy-care patients. Unnecessarily long and costly hospital stays may result. A patient-based nursing home incentive reimbursement system has been designed and is being evaluated in a controlled field experiment in 36 California skilled nursing facilities. Incentives are paid for admitting heavy-care patients, meeting outcome goals on some patients, and discharging and maintaining some patients in the community.

This article describes a nursing home reimbursement system which is intended to simultaneously mitigate problems of restricted access, inefficient use of beds, and nonoptimal care. It also discusses the approach to evaluating this broad social intervention by application of a controlled experimental design.

Introduction

The desirability of incorporating explicit positive incentives in government payment systems while avoiding negative ones has been widely considered, especially for health care reimbursement systems in general and nursing home reimbursement systems in particular (Kane and Kane, 1978). However, application of appropriate incentives has lagged behind concept development. While 27 States have adopted "efficiency payment" approaches as part of their Medicaid nursing home reimbursement system, all are of the cost-saving variety which give the facility some portion of any savings it experiences compared to a target budget. Few of the systems address the more complicated problems such as restricted access for some types of Medicaid-supported patients,inappropriate nursing home utilization by patients requiring less intensive or less comprehensive care, or the paucity of resources devoted to encouraging functional independence among nursing home patients.

If shown to be useful in producing more efficient and effective use of nursing home resources, the system described in this article would be a good condidate for adoption by most State Medicaid programs and possibly by the Federal Medicare program. Discretion to adopt such a system under Medicaid is already available to the States through Title XIX of the Social Security Act. Changes in Medicare reimbursement to adopt the system would require legislation.

Incentives in existing reimbursement policy

State Medicaid reimbursement systems have been designed primarily to control program expenditures. Nursing home care is the largest component of Medicaid programs, representing 42.5 percent of their expenditures. States, due to continuing fiscal pressure have a clear stake in control of Medicaid nursing home expenditures. As a result, many States have consciously limited the number of nursing home beds and have kept Medicaid rates below market prices to contain their costs despite Federal requirements which mandate that rates be reasonably cost-related.

Most Medicaid programs pay nursing homes prospectively determined cost-based rates. Rates are normally based on previous years' costs with an adjustment for inflation and other cost-increasing factors. Virtually all Medicaid programs impose a ceiling on rates, often based on percentiles or percentages of median costs.

Despite research showing that patient care costs tend to rise with debility level of case-mix, the vast majority of States recognize only two patient types in setting rates—skilled and intermediate (Deane and Skinner, 1978; Walsh, 1979). Only four Medicaid programs (Illinois, Ohio, Washington, and West Virginia) incorporate more refined patient categories (based on activities of daily living and specific nursing services) into their rate setting methodologies. A few other States, however, approximate a patient reimbursement system through the use of multiple level of care classifications. And Maryland has now adopted a system based in part on the design described in this article.

Without patient-based rates or multiple classifications, reimbursement systems translate essentially to a flat rate payment for any patient within a broadly defined group regardless of the individual patient's care needs, outcomes, length of stay, or quality of care. Combined with limitations on the number of beds, these systems lead homes to prefer private patients (who pay more) and to allocate to Medicaid patients only those beds which cannot be filled by private patients.

Furthermore, homes prefer the less dependent Medicaid patients within each level of care class because of their lower care costs relative to the fixed reimbursement rates.

Among the States with patient-related rates, only Illinois' system seems to have a direct incentive to admit heavier-care patients. Illinois pays a specified rate for each patient, allowing the home to retain any difference between the rate and actual costs. The other systems take account of patient characteristics in setting a ceiling on a home's reimbursable costs, but they pay only the actual costs incurred. Without hidden profit or other benefits within reported costs, these systems would

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appear to make the home neutral or disinclined regarding admission of a heavy-care patient.

Homes also benefit from allowing the least dependent patients to remain rather than incurring the additional costs of arranging their discharge and replacing them with a new patient who is likely to be more dependent and costly. Homes feel little pressure to increase quality of care beyond minimally required levels. Their occupancy rates remain uniformly high due to bed shortages and additional costs are advantageous only if private patient revenues increase due to the increment in quality.

Flat-rate reimbursement thus results in obvious problems of access and quality. Surveys have indicated that between one and seven million hospital days per year are consumed by patients awaiting placement in nursing homes. (American Professional Standards Review Organizations, 1980; Office of the Inspector General, 1980). A disproportionate share of these days are used by heavy-care Medicaid patients. A study in one State found Medicaid patients suffering from incontinence and behavioral problems waited (121 days) four times as long as continent, mentally stable Medicaid patients (29 days). Quality problems in nursing homes are well known (Vladek, 1980). Increasing average reimbursement rates without targeting the funds is unlikely to improve access or quality since homes generally do not have to compete for Medicaid patients. They need not improve quality (even when funds to do so are available) to attract sufficient Medicaid patients to fill their beds. Discharge rates and average length of stay are likely to be unaffected or adversely affected by simply increasing daily rate payments.

Design of the reimbursement system

Against this background, an incentive reimbursement system which included four key elements was designed:

- Nursing homes would be paid an incentive payment for admitting severely dependent patients,—those who require more than average care. Dependency would be measured by need for human assistance in performing the basic activities of daily living and need for other nursing care services which are unusual and costly;
- Incentive payments would be paid for discharging patients who should be discharged. To discourage abuse and encourage post-discharge support of the patient, the payments would be made only if the patient is kept in the lower level of care or in the community for at least three months. The payment would cover staff time expended to design and implement a discharge plan and to provide support, backup, monitoring, and other functions sometimes called "case management" to discharged patients. No incentives would be paid if an independent assessment showed the discharge to be inappropriate.
- Outcome incentive payments would be paid for achieving specified outcome goals in selected patients who require special care to improve or maintain their functional or health status. If a patient requires several types of special care, payments would be made for each outcome achieved. Payment would be conditional upon success in achieving the outcome;
- No incentive payments would be paid for patients expected to have a stay of less then 90 days, or for those whose maintenance or rehabilitative care needs are routine.

The reimbursement system proposed should have several useful features. Nursing home admission decisions should reflect preferences for heavy-care patients since extra care requirements would be offset by extra payments including proportionate increases in profits. With respect to outcomes, the home should be encouraged to attempt rehabilitation on those patients whose problems require especially costly care. Conversely, since payment is contingent upon success, the home has an incentive to avoid unnecessary or fruitless efforts, and a nurse assessor team will refuse to grant an incentive bonus for patients wrongly nominated as needing special care. Discharges should be encouraged because case management will be reimbursed and (due to the admission incentive) homes will face no risk of losing revenues on the new patient. That is, the discharged resident would probably require little care if kept in the facility, while a new admission may require substantial care. But these higher care costs should be offset by the admission bonus.

And finally, the system should avoid the administrative burden and error rates associated with some patient-based systems because it relies principally upon a single admission assessment (Willemain, 1980 and forthcoming). Those for outcome bonuses are limited to the small population eligible for such bonuses.

The demonstration and its evaluation

With the assistance of the California Department of Health Services and the California Association of Health Facilities and its San Diego affiliate, the 40 proprietary skilled nursing facilities (SNFs) in San Diego were invited to participate in a research demonstration project designed to test the efficiency and effectiveness of the proposed reimbursement system. All but four homes agreed to join the study. The four nonparticipating facilities were homes with very few Medicaid patients.

Participants were told that they would be required to permit specially trained teams of registered nurses to collect baseline data on patient characteristics, staffing characteristics, admissions practices, and costs. These data would be used as the basis for a randomized block design assignment procedure. That is, with the data collected during the 6-month baseline period, facilities were grouped into homogenous sets by size, corporate ownership, location within the county, and Medicare certification. Homes within these homogenous groups were then randomly assigned to the treatment or control group. Treatment group homes became eligible for the admission outcome, and discharge payments for all patients

admitted during the next 12 months as well as all Medicaid patients present at the beginning of the treatment period.[1]

Control group facilities were ineligible to receive any incentive payments. Staffing, cost and work sampling data were collected on both the treatment and control groups.

All facilities accepted the terms of the study and all continued as participants in the study after random assignment of 18 facilities to the treatment group and 18 to the control group. Such a high level of cooperation may be in part explained by several factors:

- Support by the California Department of Health Services and the California Association of Health Facilities.
- The random assignment process was actually implemented through a procedure involving all participants.
- A willingness to follow through on the commitment to the study which each participant made at the beginning of the baseline period—before they knew their group assignment.
- Peer pressure.
- A view among some nursing home owners and operators that some change in reimbursement systems to reflect care costs is appropriate.

Actual implementation of the payment system was designed to operate in the following ways:

- The SNF staff makes an independent decision to admit a patient.
- The SNF then notifies the research team of the admission.
- A research team nurse visits the SNF and assesses the patient within 5-10 days following admission (attempting to avoid assessing the patient before he or she has restabilized after experiencing possible relocation effects). The assessment protocol elicits demographic, diagnostic, and physical functioning inventories plus items on special nursing care needs. Physical functioning is measured according to the Katz activities of daily living (ADL) scale (Katz and Akpom, 1976). (Other data such as mental status and contentment are also gathered for research but not clinical or payment purposes.)
- The research team nurse applies a classification algorithm based upon the assessment data. If the facility staff disagrees with the classification, another research team nurse is brought in to provide a final opinion: no appeal process is provided or permitted.
- An admission incentive payment is disbursed to the home at the end of 90 days for each day on which the patient was still in residence.
- If the patient's condition worsens during the 90 day period, the SNF may request a special reassessment immediately, at which time the patient is reclassified if appropriate and the payment is increased. This bonus is intended to remove any incentive the home might feel to discharge a patient who requires heavy care but who entered the home and was classified as average care. Under an optimal regulatory system, this bonus might be unnecessary if homes could be effectively punished for making unwarranted discharges. Such an approach would be preferable, since it would avoid a potential adverse incentive created by this bonus. The home might let patients deteriorate in order to claim a higher placement level bonus. Payments are not decreased, however, even if the patient improves. This feature avoids any incentives to keep patients in a debilitated condition.
- If the SNF staff feel that the patient should have outcome goal(s) set, the research team nurse provides authorization if, in her opinion, the patient: (1) suffers one of the specific conditions for which outcome goals are offered; and, (2) if, in her opinion, improvement cannot be achieved without special effort well beyond ordinary good nursing care.
- If outcome goals have been set and are achieved, payment is disbursed at the end of the calendar quarter in which they are set and achieved.
- Discharge goals similarly are requested by the facility and authorized by the research team nurse if an acceptable discharge and followup plan has been prepared in writing. Implementation of the plan is monitored by the research team nurse and payment is disbursed at the end of 90 days if the patient has not been readmitted to an SNF or hospital. In the case of death, so long as it is not apparently due to improper followup by the SNF, payments are prorated.

For research purposes only, all treatment and control group patients are assessed each 90 days by a team of five research nurses whose training in use of the assessment protocol has produced consistently high reliability among team members (95 percent or better). To protect patients admitted under the incentive payment system against subsequent discharge once the study ends, admission payments will be continued for up to 4 years from admission or until the patient leaves the facility through death or transfer.

Research assessments however are confined to a 2.5-year period beginning with a 6-month baseline during which no incentive payments were made, a 1-year intake period, and a treatment period which for research purposes ends one year after the last treatment year patient is admitted. One objective of this multi-year design was to enhance the probability that any measured effects would be persistent rather than transitory. It was also essential to make a long-term commitment to the facilities in the study in order to encourage them to make staffing changes appropriate to heavier case loads.

Another objective, however, was to enhance generalizability of the findings through facilitating collection of time series data to control for what might be termed "experimental effects on the community." That is, facilities in the control group might cease admissions of heavy-care patients since they know that treatment group facilities will be more appropriately reimbursed for them. Cross-sectional comparisons between the treatment and control groups would then overstate the treatment effect in the sense that the true net effect could be

[1]Waivers of certain provisions of Medicaid law were granted by the Health Care Financing Administration to permit the homes to receive the incentive payments. Authority to grant such waivers of law and regulation are contained in Section 1115 of the U.S. Social Security Act, Title XIX. In this case, they waived requirements for statewide application of any reimbursement plan, and for application of a cost-related reimbursement system.

viewed as the marginal increase of heavy care admissions in the community as a whole. To make this adjustment, it will be necessary to employ time series data to net out decreases in control group heavy-care admissions from increases in treatment group admissions.

Of course, by another view, any level of increase in heavy-care admissions into treatment group facilities measures the actual effect upon them of the incentive system. The research design to be employed should permit measurement of both levels of effect: total and net.

Research hypotheses

- A higher proportion of severely dependent patients will be admitted to treatment group homes compared to control group homes.
- The length of nursing home stay among certain minimally disabled patients (see "Type B" patients) who are admitted during the study will be shorter in the treatment group than in the control group.
- The average minutes of nursing and therapeutic care rendered to patients in the treatment group homes will increase due to changes in staff work habits and staffing levels.
- Among residents in the home when the study begins and among newly admitted residents, a lower rate of deterioration will be experienced over time in physical and mental functioning and contentment, both in cross-sectional comparison of treatment with control group patients, and in time-series analysis of the treatment group alone.
- The average hospital length of stay of geriatric patients with specified conditions will decline over time in the study area (San Diego County).
- Costs of the admission and discharge payments, their administration and patient assessments associated with them (exclusive of outcome incentives and research activities) will be offset through reduced Medi-Cal or Medicare hospital payments.

Details of the reimbursement system

The admission incentive

A number of approaches to setting the size of the admission incentive payment could have been taken. The approach chosen was to conduct a rigorous work sampling study which would provide data on the actual marginal cost of caring for patients with various characteristics and then use the results to adjust the daily reimbursement rate for the average patient to accommodate each specific patient's needs.

To assure accuracy, sample sizes for the work sampling were set large enough so that estimates would (with 90 percent power) be within 10 percent of the true mean of the distribution of costs for each procedure studied. Work sampling observations were conducted in all 36 facilities participating in the demonstration.

Two types of work sampling studies were conducted: an Activity Observation Study and a Nurse Observation Study. The purpose of the Activity Observation study was to measure the direct patient care time involved in all nursing care services delivered in nursing homes. Activities observed were comprehensive: assistance with activities of daily living (bathing, dressing, toileting, transferring, incontinent care, and feeding); medication administration; and other skilled nursing procedures (decubitus care, special skin care, tube feeding, observation and assessment, etc.). In addition, observations were taken on turning and positioning, bowel and bladder training, ambulation training, range of motion exercises, as well as other maintenance/rehabilitation nursing care services.

In order to determine the proportion of time spent in procedure preparation, movement to and from patients, and clean-up time, the Nurse Observation substudy was conducted. Licensed nurses, Registered Nurses (RN) and Licensed Vocational Nurses (LVN) involved in direct patient care activities (that is, medications and treatment nurses) were followed continuously for a shift or some portion thereof.

Data were collected between December 1980 and March 1981 by trained RN and LVN teams who observed the patients between 7 a.m. and 7 p.m. Direct patient care was measured in 3,800 observations. The ratio of direct care to other nursing activities was measured in observations covering approximately 22,000 hours (National Center for Health Services Research). Nonetheless, some nursing home operators in the study believe that time estimates for some procedures (for example, tube feeding) were too low.

Table 1 shows the burdened mean times for each nursing care procedure observed as well as their translation into a procedure-specific cost, based upon composite wage rates for the 36 facilities.

Classifications were established which discriminated among groups of patients whose costs of care characteristics were heterogeneous. The classifications ranged from Type A patients (those who were expected to experience a live discharge in 90 days or sooner) through Type DEE 1-2-3 patients (those who were comatose and required three special skilled nursing procedures: tube feedings, decubitus care, and comatose skin and joint care.)

Because interviews with nursing home operators indicated that patient care supply costs were a significant factor in the decision not to admit certain patients, costs for supplies uniquely associated with certain patient classifications were also added to the cost of care.

The payment system explicitly excluded Type A patients on the assumption that such patients are rarely denied access to nursing homes. They also experience short average lengths of stay, typically return to the community, and although they comprise a large proportion of discharges, they represent only a small proportion of the resident population of nursing homes (National Center for Health Statistics, 1979; Keeler, et al., 1981; Liu and Palesch, 1981).

Table 1
Cost per nursing care procedure

Procedure	(1) Average performance time in minutes[1]	(2) Staff skill mix by percent	(3) Composite wage per minute[2]	(4) Total cost per procedure[3]
1. Medications	11.67	RN: 18.20 LVN: 81.80	$0.153	$1.79
2. Charting	14.54	RN: 7.63 LVN: 24.50 Aide: 68.12	$0.113	$1.65
3. Bathing/personal hygiene	9.23	RN: 0.04 LVN: 0.15 Aide: 99.81	$0.093	$0.86
4. Dressing	8.89	RN: 0.02 LVN: 0.06 Aide: 99.92	$0.093	$0.83
5. Mobility assistance	33.70	RN: 0.54 LVN: 2.15 Aide: 97.31	$0.095	$3.20
6. Incontinent care	26.48	RN: 0.44 LVN: 1.42 Aide: 98.14	$0.094	$2.50
7. Feeding assistance	48.30	RN: 2.19 LVN: 5.07 Aide: 92.74	$0.098	$4.72
8. Tube feeding	43.70	RN: 16.40 LVN: 83.60	$0.154	$6.71
9. Turning and positioning	30.93	RN: 1.80 LVN: 6.40 Aide: 91.80	$0.098	$3.04
10. Decubitus care	19.62	RN: 36.90 LVN: 63.10	$0.162	$3.17
11. Special skin care	11.60	RN: 34.75 LVN: 65.25	$0.161	$1.87
12. Skilled procedures	15.37	RN: 23.60 LVN 76.40	$0.156	$2.40
13. Maintenance rehab. nursing	14.85	RN: 2.90 LVN: 2.30 Aide: 94.80	$0.097	$1.44
14. Observation and assessment and vital signs	12.52	RN: 19.69 LVN: 25.44 Aide: 54.86	$0.125	$1.57

[1]Includes allocation of preparation, clean-up, and other indirect care time obtained from the observed ratio of direct care to indirect care time allocations of nurses.
[2]Derivation of the composite wage rate per minute was based upon actual staffing and usage data for a 50-percent random sample of the 36 homes in the study. Sampling periods included employment of full- and part-time staff, consultants, and nurses hired as temporary employees from the local registry service. Staffing levels reflected Medi-Cal certification requirements. Details of cost computations are available from the authors.
[3]Column 1 times Column 3.

Table 2 shows the 14 patient classifications developed and the costs of care derived for each classification.

Because the incentive model was intended to appeal to the proprietary nursing home operators' interest in profit, an explicit profit was added to costs. Arguments favoring payment of an explicit profit above costs noted that a more dependent case-mix implied more staffing, hence more management, more cash flow, greater outlays for interest payments on operating capital, and increased risk of fines. Even loss of certification would be risked if State inspectors felt that staffing capabilities of a given facility had not been upgraded sufficiently to meet the care requirements of certain heavy-care patients. It was assumed that no rational operator would expand operations without hope of simultaneously increasing profit. Contrary arguments focused upon the desire to hold down costs of incentive payments as well as the view that operators would be happy to take in heavy-care patients who could contribute to fixed costs by filling beds, once operators were assured that such patients' marginal costs of care would be reimbursed.

The profit-payment approach was selected after considering arguments favoring a strong treatment in initial demonstration phases of policy research and the view that elasticities can be measured in subsequent quasi-experimental natural settings if the approach itself proves viable (Sechrest, 1979).

Table 3 shows total payments, including profit, by patient classification.

Table 2
Total costs per patient day by patient classification

Patient classification	Procedures used	Aide time contribution in minutes	RN/LVN time contribution in minutes	Total staff time required	Total costs per patient day
Type A[1]	N/A	N/A	N/A	N/A	N/A
Type B	Medications		11.67		$ 1.79
(1-4 ADL)	Charting	9.90	4.64		1.65
	Bathing	9.23			0.85
	Dressing	8.89			0.83
	Mobility	33.70			3.20
Total		61.72	16.31	78.03	$8.33
Type C	All Type B	61.72	16.31		$ 8.33
(5 ADL)	Incontinent	26.48			2.50
Total		88.20	16.31	104.51	$10.83
Type D	All Type C	88.20	16.31		$10.83
(6 ADL)	Feeding	48.30			4.72
Total		136.50	16.31	152.81	$15.55
Type E1	All Type B	61.72	16.31		$ 8.33
(3 ADL + tube feed)	Tube feeding		43.70		9.43
Total		61.72	60.01	121.73	$17.76
Type E2	All Type B	61.72	16.31		$ 8.33
(3-4 ADL + decubitus)	Decubitus care		19.62		5.27
	Turn and position	30.93			3.04
	Spec. skin care		11.60		1.87
Total		92.65	47.53	140.18	$18.51
Type CE-1	All Type B	61.72	16.31		$ 8.33
(4 ADL + tube feed)	Tube feeding		43.70		9.43
Total		61.72	60.01	121.73	$17.76
Type CE-2	All Type C	88.20	16.31		$10.83
(5 ADL + decubitus)	Decubitus care		19.62		5.27
	Turn and position	30.93			3.04
	Spec. skin care		11.60		1.87
Total		119.13	47.53	166.66	$21.01
Type DE-1	All Type C	88.20	16.31		$10.83
(5 ADL + tube feed)	Tube feeding		43.70		9.43
Total		88.20	60.01	148.21	$20.26
Type DE-2	All Type D	136.50	16.31		$15.55
(6 ADL + decubitus)	Decubitus care		19.62		5.27
	Turn and position	30.93			3.04
	Spec. skin care		11.60		1.87
Total		167.43	47.53	214.96	$25.73
Type DE-3	All Type D	136.50	16.31		$15.55
(6 ADL + comatose)	Incontinent[2]	1.88			0.18
	Feeding[2]	9.96			0.98
	Observation and assessment/ vital signs	7.59	4.93		1.57
	Turn and position	30.93			3.04
Total		186.86	21.24	208.10	$21.32

See footnotes at end of table.

Table 2
Total costs per patient day by patient classification—Continued

Patient classification	Procedures used	Aide time contribution in minutes	RN/LVN time contribution in minutes	Total staff time required	Total costs per patient day
Type DEE-1-2 (5 ADL + tube feed + decubitus)	All Type CE-2	119.13	47.53		$21.01
	Tube feeding		43.70		9.43
Total		119.13	91.23	210.36	$30.44
Type DEE-1-3 (5 ADL + tube feed + decubitus + coma)	All Type C	88.20	16.31		$10.83
	Tube feeding		43.70		9.43
	Comatose care	50.36	4.93		5.77
Total		138.56	64.94	203.50	$26.03
Type DEEE 1-2-3 (5 ADL + tube feed + decubitus + coma)	All Type DEE 1-2	119.13	91.23		$30.44
	Comatose care	50.36	4.93		5.77
Total		169.49	96.16	165.65	$36.21

[1]Type A patients were defined as those likely to be discharged within 90 days. For them, the present reimbursement system appears to be functioning well and consequently they were excluded from the incentive system.
[2]Comatose residents are credited with the total care needs for incontinent patients and spoonfeeders. The difference between the weighted incontinent care mean time and total incontinent care time for bowel and bladder incontinence is 1.88 minutes, or $0.18. The difference between the weighted mean time for partial and total spoonfeeders and total spoonfeeders is 9.96 minutes, or $0.96.

Table 3
Total admission incentive payments per patient day

(1) Patient classification	(2) Minutes of nursing care PPD[1]	(3) Incremental costs PPD[1] over Type C	(4) 5 percent mark-up on PPD[1] costs over Type C	(5) Total incentive payment PPD[1]
Type B	78.03	-$2.50	$0.00	-$2.50
Type C	104.51	$0.00	$0.00	$0.00
Type D	152.81	$4.72	$0.24	$4.96
Type E-1	121.73	$6.93	$0.35	$7.28
Type E-2	140.18	$7.68	$0.38	$8.06
Type CE-1	121.73	$6.93	$0.35	$7.28
Type CE-2	166.66	$10.18	$0.51	$10.69
Type DE-1	148.21	$9.43	$0.47	$9.90
Type DE-2	214.96	$14.90	$0.75	$15.65
Type DE-3	208.10	$10.49	$0.52	$11.01
Type DEE-1-2	210.36	$19.61	$0.98	$20.59
Type DEE-1-3	203.50	$15.20	$0.76	$15.96
Type DEEE-1-2-3	265.65	$25.38	$1.27	$26.65

[1]PPD = Per patient day.

Outcome incentive payment

The outcome incentive payment is intended to encourage facilities to provide restorative nursing care, devices, aids, and other services that will lead to achievement of selected care goals. These goals are:

1. Substantial remission or elimination of multiple Stage III/IV skin ulcers.
2. Elimination of the need for tube feeding among patients having 4, 5, or 6 ADL dependencies.
3. Maintenance of good skin condition in comatose patients.
4. Improvement in ADL functioning needed to effect a discharge.
5. Change in patient's status from a 5 or 6 ADL dependent to a 3 or 4 dependent patient.
6. Maintenance of a 4 ADL dependent patient who experiences a reversible change in health status (associated with an acute episode) which might result in additional loss of ADL function.

The outcome payment will be paid only upon the successful achievement of the care goal at the end of the quarter.

The outcome incentive payment may be linked to either a maintenance or an improvement goal. When payment is linked to an improvement (types 1, 2, 4, and 5) it will be terminated when the improvement is achieved, or not paid if no success is achieved. When payment is linked to maintenance (types 3 and 6), it will be continued only as long as the resident continues to need special supportive or maintenance care following an acute episode of illness or injury. Thus, once the provision of care is completed, the resident should be capable of maintaining himself/herself at the 4 ADL level.

Residents for whom special care is required will be nominated by the nursing home staff. However, to qualify for an incentive payment, nominations must be approved by a research team nurse.

Size of the various outcome payments is derived from the work sampling data. The payment amount was also adjusted to reflect prognostication error rates expected to be approximately 50 percent (Wan, Weissert, and Livieratos, 1979).[2] Hence, for each success, the facility will receive double its costs for that patient. No incentive payment will be made when success is not achieved.

[2]The 50 percent figure came from experience in another research project by two of the authors. Assessment teams of a physician, nurse and social worker were asked to predict patients' functional abilities 90 days hence. The predictions were made following conduct of a comprehensive patient examination by the team. Error rates were approximately 50 percent on average, with greater error associated with a prediction of improvement and somewhat smaller error likely when decline was predicted.

Discharge incentive payment

While Type A patients can be expected to be discharged in a timely fashion without additional reimbursement, such discharges are not now taking place in some homes for patients who fall into the Type B, C, D, and E categories. For many of these patients, discharge would be inappropriate, and will, of course, not be encouraged. But for some Type B, C, D, and E patients, recovery of functional abilities will be the outcome of appropriate care. Homes will be encouraged to discharge these patients by an incentive payment which covers the home's costs, leaving them indifferent between the resident patient with lower than average care needs and the potentially heavy-care patient replacement. Discharge costs to the facility are those associated with marshalling community resources to facilitate a discharge and the opportunity costs of creating a bed vacancy (that is, foregone revenues). The case management effort assumes an average salary of $5 per hour applied to 40 hours of staff time per discharge (for example, gaining eligibility for community services on behalf of the resident, linking the resident to needed services, purchasing small appliances and fixtures to facilitate independent living, counselling and followup visits, etc.). The vacant bed component was set at the average facility Medi-Cal rate for 10 days. Discharge payments are awarded only after the resident has been discharged to and maintained for 90 days in a lower level of care in a setting outside the facility.

To prevent patient dumping and to insure that patients' needs will be met after discharge, payment of the incentive is made contingent upon two criteria:

- A discharge plan must be approved in advance by a research team nurse. To be approved, the plan must include at least an explicit, comprehensive inventory of patient activities of daily living needs including such instrumental needs as shopping, telephone use, etc., and an explicit detailed plan for meeting each need. (A model discharge planning protocol was supplied by the research team for use as an optional guide.)
- The discharge must be a success—that is, the patient must remain in the lower level of care for at least 90 days. If the patient returns to the nursing home within 90 days of discharge or goes to a hospital for more than 3 days, no discharge payment will be made. Consequently, it is in the nursing home's interest to limit discharges to those which appear to be appropriate and likely to succeed with appropriate support.

Summary

Because nursing homes face a seller's market for serving Medicaid patients, some of them avoid heavy-care patients whose costs of care would exceed allowable cost reimbursement levels. A patient-based incentive reimbursement system was designed which pays bonuses to nursing homes for admitting patients classified as requiring care more costly than the average patient. Additional bonuses are paid for achieving certain costly outcomes, and for achieving a successful discharge of a long-term patient. Long-term patients are those with stays of at least 90 days, while a successful discharge is one which lasts at least 90 days.

Size of the admission and outcome bonuses is based upon work sampling data measuring the costs of each nursing procedure, including the costs of preparation time and related overhead activities, plus a profit allowance.

The demonstration is being carried out in a controlled experiment in 36 skilled nursing facilities in San Diego. Homes were randomly separated into treatment groups and control groups of 18 facilities each. Only treatment group homes receive bonuses. All patients in all homes are assessed quarterly for research purposes. Data collection began in November 1980 and continued through Spring 1983.

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