ESRD Managed Care Demonstration: Financial Implications

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In 1996, CMS launched the end stage renal disease (ESRD) managed care demonstration to study the experience of offering managed care to ESRD patients. This article analyzes the financial impact of the demonstration, which sought to assess its economic impact on the Federal Government, the sites, and the ESRD Medicare beneficiaries. Medicare's costs for demonstration enrollees were greater than they would have been if these enrollees had remained in the fee-for-service (FFS) system. This loss was driven by the lower than average predicted Medicare spending given the demonstration patients' conditions. The sites experienced losses or only modest gains, primarily because they provided a larger benefit package than traditional Medicare coverage, including no patient obligations and other benefits, especially prescription drugs. Patient financial benefits were approximately $9,000 annually.

INTRODUCTION

The intent of the ESRD demonstration was to determine whether an extension of an integrated, capitated system of care to ESRD beneficiaries would be operationally feasible, efficient, and able to produce outcomes comparable to the current FFS system. The demonstration began at three sites across the country: Health Options, Inc. (HOI), a subsidiary of Blue Cross®/Blue Shield® of Florida, based in Miami; Kaiser Permanente Southern California Region (Kaiser), based in Los Angeles; and Xantus Health Care Corporation, based in Nashville, Tennessee. The demonstration initially started in September 1996 and the sites began enrolling patients in 1998. Only the Kaiser and HOI sites remained operational for the duration of the demonstration, which stopped enrolling new patients in early 2001. By that time, Kaiser had enrolled a total of 1,649 beneficiaries and HOI had enrolled a total of 967 (including for both sites, those who later disenrolled or died).

Enrollment into the demonstration was strictly voluntary. At the start of enrollment for each site, adult chronic renal failure patients with Medicare primary insurance who were residents in the service area counties were indirectly recruited through marketing materials mailed by CMS. Subsequently, the sites were given opportunities to market directly to ESRD patients and staff at local dialysis facilities. Patients who were already enrolled in the Kaiser Medicare-risk health maintenance organization (HMO) plan were listed and randomized by CMS, and given the opportunity to join on a two-for-one basis (i.e., for every two new enrollees, Kaiser could enroll one of their existing managed care

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patients in the plan).[1] These Kaiser patients are referred to as rollover patients. Enrollment commenced in February and June 1998 for the California and Florida sites, respectively. Active recruitment and intake were continuous for at least 12 months at both sites, with enrollment continuing until the end of the 3-year period.

A detailed description of the demonstration, its evaluation, and findings regarding quality of life and patient satisfaction are reported elsewhere (The Lewin Group, and University Renal Research and Education Association, 2002). Like the findings regarding quality of life and patient satisfaction, analyses of clinical outcomes revealed that demonstration patients fared as well as, or in some cases better than, a representative sample of comparison FFS patients. Specifically, the mortality experience of demonstration patients was the same as or better than comparison patients even after adjustment for patients' healthier status (although some unmeasured differences in health status may still have existed). Clinical indicators, such as anemia management, dialysis adequacy, and vascular access rates, also were the same as or better than the comparison patients (The Lewin Group, and University Renal Research and Education Association, 2002).

In addition to testing the ability of managed care organizations (MCOs) to provide care to ESRD beneficiaries of a quality at least comparable to that provided in the FFS system, the demonstration was also designed to test the economic implications and financial viability of capitated managed care for this chronically ill population. That is, once it is established that such a program can produce clinical results comparable to FFS, it is important to determine whether the program as currently designed is financially sustainable. The financial evaluation sought to assess the financial impact of the demonstration from the perspectives of the three key stakeholders—the Federal Government, the sites, and the ESRD Medicare beneficiaries.

[1] While the HOI had very few ESRD patients in its health plan prior to the demonstration, Kaiser had about 2,000 ESRD patients in its regular Medicare-risk plan at the outset.

PERSPECTIVE

Federal Government

A fundamental policy question is what the demonstration patients would have cost CMS had they enrolled in the Medicare FFS system. This question is parallel to one that has been the subject of considerable research and contention since the inception of Medicare-risk contracts, authorized by the Tax Equity and Fiscal Responsibility Act of 1982. Numerous studies have concluded that favorable selection experienced by Medicare-risk HMOs led to payments by the Federal Government that were excessive, since the payment methodology—while adjusting for certain demographic characteristics of Medicare-risk enrollees—did not sufficiently adjust for differences in health status (Hellinger, 1987; Brown et al., 1993; Riley et al., 1994; and U.S. Government Accounting Office, 1997). Even after the Balanced Budget Act of 1997 modified Medicare's payment methodology to HMOs by—among other revisions—incorporating a health status risk adjustment, concerns about overpayment to HMOs have remained (U.S. General Accounting Office, 2000, and Office of Inspector General, 2000). Such concerns, however, have not led the government to dismantle the Medicare+Choice (M+C) program, but rather to continue efforts to improve the program's risk-adjustment methodologies.

Not surprisingly then, a key component of the demonstration was the payment methodology and the risk adjustment it incorporated.

A brief explanation of the demonstration's payment methodology is provided in a subsequent section of this article.

Demonstration Site

Evaluating the financial impact on health plans of serving Medicare ESRD beneficiaries has taken on greater importance in the current M+C environment. In recent years, the M+C program has been plagued by the exodus of numerous health plans from the Medicare market altogether or from certain geographic service areas. Among those plans remaining in the program, benefit reductions and large increases in monthly beneficiary premiums have been common. Health plans have cited financial considerations as a factor contributing to these decisions.

The evaluation investigated the degree to which the sites experienced financial gains or losses under this program, as well as the cost components: (e.g., costs associated with medical benefits covered by FFS Medicare costs associated with additional benefits, and administrative costs) that contributed to these gains or losses. Financial viability, or success, from the sites' perspectives may indicate whether MCOs would be interested in participating with future Medicare managed care programs for ESRD patients. Results of the evaluation may also suggest whether and how elimination of the barrier to enrollment of ESRD beneficiaries might influence health plans' decisions to enter or remain in M+C.

Medicare ESRD Beneficiary

The two main reasons patients reported enrolling in the demonstration were the financial benefits resulting from the plans' coverage of Medicare coinsurance and deductibles, and of the outpatient prescription drugs. As part of the financial analysis, we estimated the savings that accrued to patients as the result of such coverage. This piece of the financial analysis sheds some light on the value of the additional benefits obtained through the demonstration, and how that value compares with CMS' spending on the program.

PAYMENT UNDER THE DEMONSTRATION

Traditional payments to Medicare-risk contractors for ESRD patients differ from the capitation rates paid to other Medicare-risk contractors. Because ESRD beneficiaries comprise less than 1-percent of the Medicare population, individual cell sizes are too small to permit ESRD rates to be set on a county-specific basis. Further, the statewide ESRD capitation rates are not risk adjusted for treatment modality (e.g., transplant versus dialysis), age, sex, disease severity, or any other factor.

In designing the demonstration, CMS revised the ESRD capitation ratesetting method amid concerns that the single capitation rate was problematic. Like the traditional ESRD payment rates, demonstration payment rates were based on statewide average Medicare costs[2] for ESRD patients. (Costs of patients with Medicare as secondary payer were excluded because patients with a primary payer other than Medicare were not eligible to enroll in the demonstration.) However, because research has shown that there is significant heterogeneity in ESRD beneficiaries' health status, the demonstration was designed to test the impact of risk-adjusted ESRD capitation rates versus the historic single State-specific capitation rate.

[2] Medicare generally pays 80 percent of allowed charges for Part B services, after the patient meets the $100 Part B deductible, with the patient or secondary insurer responsible for the remainder. The patient also pays deductibles and coinsurance on Part A services. Thus, Medicare costs do not represent the full costs of Medicare-covered services.

Under the demonstration, costs for ESRD beneficiaries were partitioned into three discrete treatment status categories (due to the variation in costs associated with each mode of treatment):

- Medicare costs during a period of maintenance dialysis.
- Medicare costs associated with a transplant episode (defined as the month prior to, the month of, and the month following a transplant).
- Medicare costs during a post-transplant period in which the beneficiary had a functioning kidney allograft.

A separate transplant rate cell was established because the upfront costs of transplantation are very high, and it takes a number of years for the transplant to pay for itself in lower functioning graft costs. Since the patient was free to disenroll from managed care at any time (i.e., potentially before the HMO could recover the cost of the transplant), there was some concern that a single, unadjusted payment rate might provide a disincentive for HMOs to provide transplants. The temporary, 3-month transplant rate cell was intended to make the transplantation payment revenue neutral from the perspective of the MCO.

For the dialysis and functioning graft cells, rates were further adjusted for three age categories (under 20, 20-64, and 65 or over) and, for the older age categories, whether or not diabetes was the primary cause of the renal disease,[3] as these are key drivers of expenditures in ESRD. The transplant rate cell was not so adjusted, since age and diabetes were not thought to be predictive of transplant costs.

Finally, the development of the initial capitation rates under the demonstration were based on 100 percent of the ESRD statewide rates, rather than 95 percent of FFS costs that had historically been paid to Medicare-risk contractors. The demonstration sites were required to provide additional services to justify the extra 5-percent payment. Subsequently, the demonstration rates were updated annually based on the M+C update factors (typically about 2 percent).The payment rate cells are presented in Table 1. For illustrative purposes, payment rates for the California demonstration site for year 2000 are also presented.

METHODS

Measuring Financial Impact on CMS

Medicare Spending

We calculated pre-demonstration spending rates for enrollees who had Medicare primary insurance before enrolling. Up to one year of claims generated by these patients while covered under Medicare were summarized for calculating average cost rates during this period. Only claims through December 31, 1998 were available for analysis, limiting our search to those patients who enrolled before December 1999. This resulted in patients having up to, but no more than, one year of data, with a possible gap of up to 11 months between the end of claims and demonstration enrollment (due to the cutoff period of December 31, 1998). It should also be noted that Kaiser rollover patients, having been in their Medicare-risk plan prior to enrollment, would not have generated FFS claims prior to the demonstration and were thus excluded from any pre-cost calculations. All patients on either hemodialysis or peritoneal dialysis who were enrolled and met these criteria were included. For HOI, 461 patients were identified and for Kaiser, 401 patients were included in this sample (total patient years are given in Table 2). Patients were identified as being on dialysis

[3] CMS' stated reason for using this particular adjustor was that ESRD beneficiaries with diabetes are generally in poorer health due to their systemic illness and, consequently, cost more to serve.

Table 1

End Stage Renal Disease Managed Care Demonstration Payment Rate Cells, by Age, Modality, and Primary Cause of Renal Disease

Age	Dialysis		Functioning Graft		Transplant[1]
	Diabetes	Other	Diabetes	Other	—
0-19 Years	—	$4,213	—	$1,288	$14,893
20-64 Years	$5,261	4,319	$2,042	1,289	14,893
65 Years or Over	6,004	5,273	2,364	1,836	14,893

[1] Transplant rate paid for 3 months.

NOTES: The sample rates shown are the rates that were in effect in California in year 2000. Rates differed somewhat between California and Florida, and were updated annually.

SOURCE: Centers for Medicare & Medicaid Services: Data from the End Stage Renal Disease Managed Care Demonstration.

Table 2

Actual Total Spending Per Patient Year (PPY), All Dialysis for End Stage Renal Disease: 1998

Spending Category	Florida		California	
	Total Patient Years	Total Spending PPY	Total Patient Years	Total Spending PPY
1997-1998 Actual Pre-Demonstration Medicare Payments (All Survived)	386	$46,430	[1]315	$43,709
1998 Actual Medicare Payments for Statewide Fee-for-Service Patients (Deaths Included)	8,094	57,776	13,713	60,469
1998 Actual Centers for Medicare & Medicaid Services Demonstration Payments to Plans[2]	156	54,255	237	58,130
1998 Actual Demonstration Plan Costs	—	62,280	—	60,080

[1] Kaiser Permanente non-rollover patients only were used for pre-demonstration cost rates in California.

[2] As reported in the 1998 annual statements of expenses and revenues by Health Outcomes, Inc. and Kaiser Permanente.

SOURCES: Centers for Medicare & Medicaid Services: Data from the Enrollment Database, Renal Beneficiary and Utilization System, and the Common Working Files, 1997-1998.

and Medicare primary-insured using CMS' enrollment database insurance status information, in conjunction with the established minimum cut point of $675 for monthly spending on dialysis.[4]

A statistical model was employed to answer the question of how much Medicare would have paid for demonstration patient care had these beneficiaries remained in FFS. Separate regression models for estimating spending in California and Florida were developed using 1998 Medicare FFS claims data for dialysis patients from these two States. Patients who were identified as receiving dialysis on January 1, 1998, with Medicare primary insurance coverage were included in the models. Because cost data are normally skewed, a natural log transformation was applied to the actual costs to handle the problem of outliers. Patient time at risk was censored at December 31, 1998 at date of last dialysis claim, or at date of death, whichever was earliest. Medicare FFS spending was modeled (as the natural log of cost), varying according to age, sex, race, ethnicity, time with ESRD, modality (hemodialysis or peritoneal dialysis), body mass index, natural log of followup time (in months), death, and the comorbidities collected on the CMS Form 2728.[5]

A smearing estimator, equal to the mean of the anti-log of the residuals, was applied to the estimates from the log-cost regression model in order to correct for retransformation bias (Duan, 1983). To validate this approach, the predicted values for the

[4] Cut point amount reflects the 10th percentile of spending for dialysis patients in 1993. Methods described in the U.S. Renal Data System (1996).

[5] Patient data form required by CMS at the start of ESRD to collect relevant clinical information for Medicare enrollment, including the presence or absence of 20 different comorbid conditions.

underlying FFS populations in California and Florida were calculated per patient year (PPY), and effectively verified against their actual PPY costs. Using these regression models, each demonstration patient's health profile was entered into the regression equation by multiplying the model parameter estimates by the patient demographic and comorbid values recorded on CMS Form 2728; the sum of these yielded a predicted log cost. The Medicare total predicted FFS cost for each demonstration patient was calculated by multiplying the smearing estimator by the anti-log of the individual patient predicted log values. Total costs were estimated for demonstration patients enrolled in 1998 for up to one year following enrollment; patients who died or disenrolled from the plan could have less than one year of followup.

Medicaid Spending

Our methodology for estimating Medicaid payments for Medicare cost-share responsibilities used two approaches. First, we estimated the amount typically paid by Medicaid for the dually-eligible ESRD patient by:

- Determining the 20 percent copay associated with Part B services using the California and Florida-specific statewide Part B ESRD payment rates.
- Estimating the percentage of ESRD patients who accrue a Part A deductible during a year.
- Translating the results into an actuarial equivalent value (i.e., per patient per month or per year amount), we then applied the yearly amount to the actual number of person—years of enrollment of dually-entitled persons in each demonstration site.

Using this methodology, we estimated that Medicaid incurs, on behalf of dually-eligible patients, approximately $758 per eligible per month in Medicare cost-sharing expenses.[6] It is important to note that States have some flexibility in complying with the requirement to pay Medicare cost sharing for dually-eligible recipients, i.e., they have the option to base their payments on the full Medicare-approved amount, or on the amount the State pays for the same service on behalf of a Medicaid recipient not entitled to Medicare. Our estimates assume Medicaid payment of Medicare cost sharing based on the full Medicare-approved amounts, and thus represent the upper limit of Medicaid spending for Medicare cost sharing and, in turn, Medicaid savings under the demonstration.

Additionally, we considered the estimate CMS' Office of the Actuary (OACT) provided regarding average cost-share responsibilities for ESRD patients in traditional Medicare (Centers for Medicare & Medicaid Services, 2001). We assume that OACT's estimate of approximately $500 per month would be somewhat lower for the healthier demonstration enrollees, perhaps 10 to 15 percent lower. Thus, we estimated that Medicaid incurs between $425 and $750 per dually eligible patient per month in Medicare cost-share expenses.

We also included pharmacy costs in our assessment of Medicaid savings. For dually-eligible recipients for whom the full package of Medicaid services is offered[7], Medicaid also typically incurs expenses for certain non-Medicare covered services, most notably prescription drugs. Based on the average retail price per prescription ($45—according to a study by the National

[6] In 2000, Part B statewide ESRD payment rates were $2,897 and $2,816 per month in California and Florida. The associated 20 percent copays were $8,692 and $8,448 per year. In general, about two-thirds of ESRD patients are hospitalized once during a year, incurring a Part A deductible of about $800, with the average patient accruing about $9,100 per year in deductibles and copays (about $758 per month).

[7] According to the Henry J. Kaiser Foundation (1999), 88 percent of the dually-eligible 1995 recipients received full Medicaid benefits.

Institute for Health Care Management, Research and Educational Foundation (2001) the average number of prescriptions per year for demonstration patients (eight), and adjustments to account for Medicaid pharmacy discounts and rebates, we estimated that Medicaid typically incurs prescription drug costs of $200 to $300 per month for dually-eligible ESRD patients who receive the full Medicaid package of services. This estimate is in line with the 1995 mean monthly Medicaid pharmacy benefit reimbursement per dually-eligible ESRD beneficiary of $240 (Schore and Brown, 2002).

Measuring Financial Impact on Demonstration Sites

To assess the financial impact on the sites themselves, we requested annual statements of expenses and revenues relating to the ESRD demonstration only (as opposed to information on other HMO lines of business or the health plan as a whole) from each of the two sites. In an effort to obtain reasonably consistent and comparable revenue and expense information, we developed report formats for the sites' use. Sites were asked to record CMS capitation revenue, medical expense information by major category of service, and administrative expenses. In addition, medical expenses also were to be provided separately for the treatment modality/cause of renal failure categories that corresponded to the capitation rate cells: dialysis patients (diabetic nephropathy and other), functioning graft patients (diabetic nephropathy and other), and transplant patients (incorporating medical expenses during the 3 months surrounding the transplant). Reports in the requested format were submitted to the evaluation team approximately 6 months after the end of each calendar year, and included all claims incurred during the previous calendar year that were paid through the most recent month.

In general, HOI was able to comply with the requested report format, and a comparison of the data reported by HOI to the claims and utilization data supplied directly to the evaluation team verified the accuracy of the financial reports submitted. Kaiser, on the other hand—due to the historically closed health care delivery system inherent in its group-model structure—found it much more difficult to supply data in the requested formats. Its data systems have been developed to function primarily as transaction systems and are not equipped to measure visit intensity. Therefore, its reported medical costs in many categories of service represent an average for the medical center, based on department (or service category) costs and utilization, and do not adjust for age of patient or the actual intensity of any given service. For this reason, Kaiser felt it would be inappropriate and misleading to report data disaggregated into several rather small modality-specific categories, and instead provided the revenue and expense information for the demonstration as a whole and for "all modalities, diabetic nephropathy" and "all modalities, other." Notwithstanding these data limitations, an assessment of the financial impact on the Kaiser site using these financial reports was felt to be instructive, particularly because the data provided by them was the same information they used to evaluate their own fiscal performance for their demonstration line of business. This information clearly has real-world relevance.

It should be noted that, for both Kaiser and HOI, it is difficult to isolate administrative expenses related solely to the demonstration. Both have other lines of business, including commercial and Medicare-risk products. Reported administrative expenses therefore are partially

dependent on how corporate overhead expenses are allocated to the demonstration. We were unable to address and control for likely variations in the derivation of administrative expenses within the scope of the evaluation. We point them out as potential drawbacks of the cost analysis and as factors that must be considered when interpreting the analytic results.

Measuring Financial Impact on ESRD Beneficiaries

Our assessment of the financial impact of the demonstration on the patient out-of-pocket health care costs focused on the value of the extra benefits[8] offered by the sites, as well as on two key additional benefits, over and above regular Medicare benefits that the sites offered: prescription drug coverage and absence of patient copays.

The value of extra benefits provided to enrollees was extracted from the financial reports provided by the sites. Our methodology for estimating the financial impact on the beneficiary of demonstration coverage of Medicare coinsurance and deductibles and of prescription drugs was similar to the methodology we used to estimate Medicaid expenses incurred as a result of covering these benefits for dually-eligible recipients. We relied on estimates from CMS' OACT regarding the Medicare cost-sharing responsibilities typically experienced by ESRD beneficiaries. To estimate the value of the prescription drug benefit, we again used the average retail price per prescription as reported by the National Institute for Health Care Management, Research and Education Foundation (2001), and applied that price per prescription to the average number of prescriptions per month per demonstration enrollee, using prescription drug data collected during the demonstration.

[8] CMS' payment to the sites was based on 100 percent of FFS costs for demonstration-eligible enrollees, compared with the standard 95 percent of FFS costs paid to regular Medicare-risk contractors. In return for this higher payment level, the sites were expected to provide "extra benefits" equal to the 5 percent extra payment. Because virtually all Medicare-risk contractors (including Kaiser and HOI) provide some additional, non-Medicare covered benefits to their regular risk enrollees within the 95 percent payment level, CMS defined extra benefits as benefits over and above what the sites offered to their regular Medicare-risk enrollees.

RESULTS

Medicare Spending Impacts

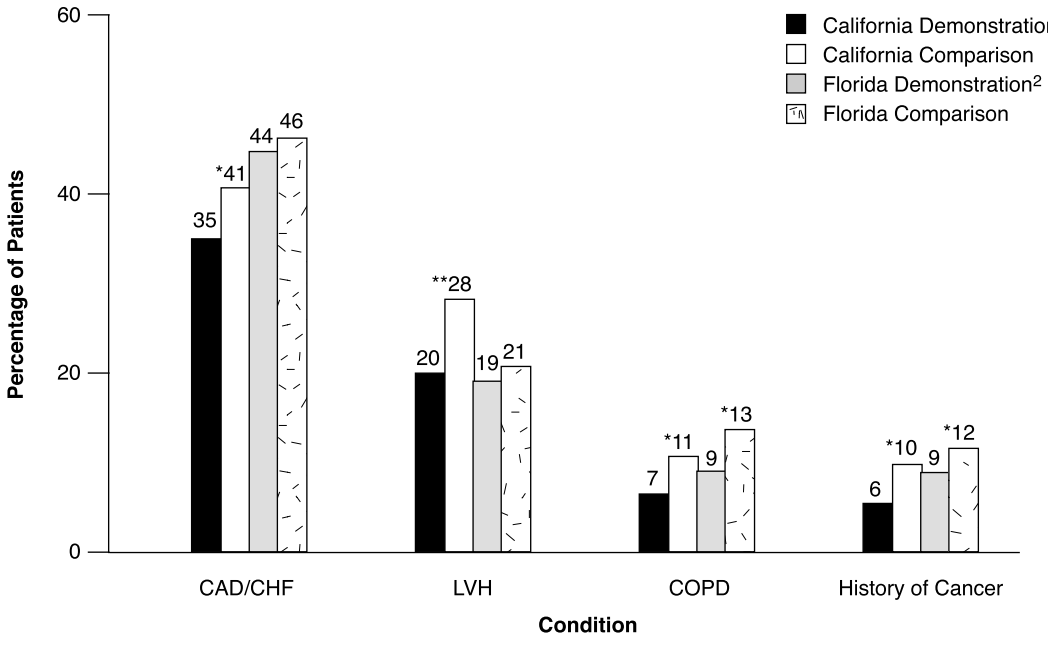
Pre-Demonstration Spending

Based on the sub-sample of patients that had spending data available from 1997 or 1998, Medicare spending rates were calculated for the period during which they were Medicare primary insured preceding demonstration enrollment. The rates PPY prior to enrollment for HOI and Kaiser patients are shown in Table 2. These rates were 19.6 and 27.7 percent lower than those calculated for the Florida and California FFS comparison groups, respectively. There are two important reasons why these numbers are not directly comparable. First, due to the better health of demonstration patients at enrollment, it is not surprising that these patients would have lower expenses prior to their enrollment, and patients who enrolled were younger on average and had lower levels of comorbidity compared with patients in the Dialysis Outcomes and Practice Patterns Study (DOPPS)[9] (Young et al., 2000). Figure 1 gives an example of this. A second difference between the FFS and demonstration populations is that demonstration patients were guaranteed to have survived (i.e., no possibility for deaths) during the pre-demonstration period, whereas the FFS population included patients who had died. Because of the established differences

[9] DOPPS is a prospective, observational study involving a sample of hemodialysis patients randomly selected from nationally representative dialysis facilities in the U.S.

Figure 1

End Stage Renal Disease Managed Care Demonstration and Comparison Group (DOPPS): Comorbid Condition Rates



* $p<0.05$.

** $p<0.001$.

[1] Kaiser Permanente is the demonstration site for Kaiser Permanente Southern California Region.

[2] Health Options, Inc. is a subsidiary of Blue Cross®/Blue Shield® of Florida site.

NOTES: DOPPS is Dialysis Outcomes and Practice Patterns Study. CAD/CHF is coronary artery disease/congestive heart failure. LVH is left ventricular hypertrophy. COPD is chronic obstructive pulmonary disease.

SOURCES: Dykstra, D.M. and Held, P.J., University Renal Research and Education Association; Beronja, N. and Menges, J., The Lewin Group; Gaylin, D.S. and Oppenheiner, C.C., National Opinion Research Center; Wolfe, R.A., University of Michigan; Rubin, R.J., Georgetown University School of Medicine; and Shapiro, J.R., Centers for Medicare & Medicaid Services, 2003.

in the FFS and demonstration populations, and the known increase in costs prior to death, we adjust for these factors in the predictive cost models discussed in the following section. Table 2 shows the actual CMS payments and health plan costs for all dialysis patients (by site) who enrolled in the demonstration in 1998. Note that the total health plan costs shown include administrative costs and spending for extra benefits not typically provided under regular Medicare-risk plans.

Demonstration patients cost CMS 6.1 percent less in Florida and 3.9 percent less in California than the average dialysis patient within the same State during 1998 (Table 2). However, this comparison makes no adjustment for comorbid differences between the demonstration patients and FFS patients. In other words, we would expect these demonstration patients to cost less for comparable coverage than the average comparison patient in California and Florida FFS as indicated by their lower-than-average pre-demonstration costs and healthier status at enrollment.

Predicted Demonstration Patient Costs

Each patient's costs were predicted based on their demographic and comorbid characteristics, death status within one year, and followup time, using the parameter estimates from the State-specific regression

Table 3

Predicted Costs Versus Actual Total Medicare Spending Per Patient Year (PPY) for End Stage Renal Disease Managed Care Demonstration Patients: 1998

Spending	Florida[1] Total PPY	California[2] Total PPY
1998 Predicted Patient Costs to CMS as if Under Medicare Fee-for-Service	$50,741	$55,555
1998 Actual CMS Payments	54,255	58,130

[1] Health Options, Inc. is a subsidiary of Blue Cross®/Blue Shield® of Florida site.

[2] Kaiser Permanente is the demonstration site for Kaiser Permanente Southern California Region.

SOURCES: Dykstra, D.M. and Held, P.J., University Renal Research and Education Association; Beronja, N. and Menges, J., The Lewin Group; Gaylin, D.S. and Oppenheiner, C.C., National Opinion Research Center; Wolfe, R.A., University of Michigan; Rubin, R.J., Georgetown University School of Medicine; and Shapiro, J.R., Centers for Medicare & Medicaid Services, 2003.

models. Table 3 shows the predicted costs PPY for demonstration patients in each State. The total number of patient years at risk for the sites was 292 and 397 for HOI and Kaiser, respectively.

When comparing predicted total costs with actual CMS costs for patients enrolled in the demonstration during 1998, we found that predicted costs for demonstration patients in California and Florida were estimated to be 4.4 and 6.5 percent lower, respectively[10]. Compared with the costs PPY in the FFS populations of California and Florida (Table 2), the demonstration predicted costs for Kaiser and HOI were 8.1 and 12.2 percent lower, respectively. The lower predicted costs for demonstration patients compared with FFS patients can be explained by their better health as well as their lower death rates, since death alone translated into an increase in the predicted total cost of nearly 40 percent. The 1998 sample of Kaiser enrollees experienced 0.15 deaths PPY compared with 0.27 deaths PPY in the California FFS sample. Similarly, the HOI sample had only 0.13 deaths PPY, in contrast to 0.32 deaths PPY in the Florida FFS sample.

[10] The Lewin Group and University Renal Research and Education Association (2002), stated different predicted costs resulting from a cost model that the report's authors acknowledged had a tendency to predict lower-than-actual costs. Since the time of the report, predicted cost estimates were corrected for retransformation bias by means of a smearing estimator.

Medicaid Spending Impacts

CMS had estimated the demonstration savings to Medicaid to be approximately twice the savings we calculated. There are two key reasons for this discrepancy. First, total enrollment did not reach the levels CMS had predicted. Second, the distribution of dually-eligible recipients in the enrolled population did not mirror the distribution in the underlying population. CMS also estimated that approximately 30 percent of the Medicare-entitled ESRD beneficiaries in the demonstration service areas were also covered by Medicaid, and that this distribution would hold in the enrolled population. In fact, we found that approximately 54 percent of California patients in the DOPPS were dually eligible, while only 17.4 percent of the Kaiser enrolled population were dually-eligible. In Florida, approximately 30 percent of the statewide DOPPS ESRD patients are dually-eligible, compared with only 15.6 percent of the HOI enrollees. This finding is consistent with our observation that patient selection into the demonstration is not representative of the FFS ESRD population. It also is consistent with our findings that enrollees joined primarily to minimize their out-of-pocket costs (dually-eligible beneficiaries have minimal out-of-pocket liability in the FFS setting, and thus have little financial incentive to enroll in a more restrictive managed care plan).

Based on our analysis, the estimated savings to Medicaid (including both Federal and State shares) were, at the most, $10,000 per dually-eligible enrollee per year. Since only about 16 percent of demonstration enrollees were dually-eligible, this is about $1,600 per enrollee overall. With a Federal medical assistance percentage close to 50 percent in both California and Florida, the Federal Medicaid savings were at most $800 per enrollee per year, which represents an offset to Medicare spending of about 1.5 percent. That is, the Federal Government did not save money under the demonstration, whether one considers only the direct impact on Medicare spending or the combined impacts on both Medicare and Medicaid.

Financial Impact on Demonstration Sites

Overall Viability

For each of the calendar years (CYs) 1998, 1999, and 2000, demonstration capitation revenues received by Kaiser and HOI[11] are compared with their demonstration program expenditures (Table 4). For both Kaiser and HOI, capitation revenues for CY 1998 did not cover total demonstration expenses (including medical and administrative costs) incurred in 1998. HOI's 1998 net loss of 14.8 percent (about $1.3 million) was significantly higher than Kaiser's net loss of 3.3 percent (about $463,000). By CY 1999, the financial picture had improved somewhat for both plans' demonstration programs, with HOI's loss decreasing to 3.6 percent (about $1.1 million) and Kaiser showing a positive net income of 1.9 percent (about $799,000). HOI's net loss grew again in CY 2000 to 8.6 percent (about $3.3 million), while Kaiser continued to show a positive though somewhat lower net income, at 0.7 percent (about $397,000).

Medical Loss Ratio

The medical loss ratio, which represents the aggregate costs of medical services as a percentage of total HMO premium revenue, is commonly used in the insurance industry as an index of how well payment levels to the HMO match up with the costs of delivering the medical services covered by the health plan. In the HMO industry, a medical loss ratio close to 85 percent is considered reasonable, with the remaining 15 percent or so of revenue available to cover administrative costs and profit. A medical loss ratio that is consistently above 95 percent is generally not financially sustainable, as the HMO would be operating at a loss after covering administrative costs. However, on the other side, a consistently low medical loss ratio (e.g., below 75 percent) is an indication of excessive profits to the HMO, which purchasers would find unacceptable.

In the demonstration, aggregate costs of medical services (i.e., including all Medicare-covered services, outpatient prescription drugs, and extra benefits) as a percentage of total revenue—the medical loss ratio—ranged from 93.6 to 99.1 percent across sites and years (Table 4). In other words, the costs to the sites of all Medicare-covered services and certain non-Medicare-covered preventive services, plus outpatient prescription drugs, plus the extra benefits not covered under the plans' regular Medicare-risk products—while below the capitation revenue—left little revenue for covering administrative costs. As previously discussed, the capitation payment under the

[11] Capitation revenues include payments actually received from CMS for the months included in the reporting period, as well as payment expected from the sites, but not yet received at the time of report submission. For instance, CMS payment of the transplant rate for the 3 months surrounding a transplant often lagged behind other payments.

Table 4

End Stage Renal Disease Managed Care Demonstration Service Components Per Member Per Year (PMPY) Expenditures and as Percentage of Capitation Revenue: Calendar Years 1998-2000

Service Component	HOI			Kaiser		
	1998	1999	2000	1998	1999	2000
Capitation Revenue PMPY	$54,255	$58,112	$57,334	$58,130	$55,641	$54,750
Medical Services						
Medicare-Covered Services Only[1]						
PMPY Costs	49,445	51,169	53,350	49,969	48,700	47,884
Expenditures as Percent of Revenue	91.14	88.05	93.05	85.96	87.53	87.46
Services Covered Under Regular Medicare Risk[2]						
PMPY Costs	50,934	53,043	55,362	55,832	51,827	51,815
Expenditures as Percent of Revenue	93.88	91.28	96.56	96.00	93.15	94.64
All Medical Services[3]						
PMPY Costs	51,183	54,383	56,841	56,746	52,429	52,416
Expenditures as Percent of Revenue	94.34	93.58	99.14	97.62	94.23	95.74
Administrative Services						
PMPY Costs	11,096	5,799	5,448	3,335	2,144	1,938
Expenditures as Percent of Revenue	20.45	9.98	9.50	5.74	3.85	3.54
Medical and Administration						
PMPY Costs	62,280	60,182	62,291	60,080	54,573	54,353
Expenditures as Percent of Revenue	114.79	103.56	108.64	103.35	98.08	99.28

[1] This category actually includes some services that are not Medicare covered, (e.g., certain preventive services). In addition, it includes the Medicare deductible and coinsurance that are the patient's responsibility in the fee-for-service system.

[2] This category includes the services in the first category, plus outpatient prescription drugs that are covered under the sites' regular Medicare-risk products.

[3] Includes all medical services covered under the demonstration, and the percentages are equivalent to the sites' total medical loss ratios.

NOTES: Because of the differences between the Kaiser Permanente and the Health Outcomes, Inc. (HOI) service delivery models and the associated differences in the methodologies for capturing costs, it is inappropriate to compare HOI's financial results with Kaiser's financial results for specific services or categories of service. More general financial comparisons across the two sites (e.g., of total medical loss ratio and of total net income) are less problematic.

SOURCES: Dykstra, D.M. and Held, P.J., University Renal Research and Education Association; Beronja, N. and Menges, J., The Lewin Group; Gaylin, D.S. and Oppenheiner, C.C., National Opinion Research Center; Wolfe, R.A., University of Michigan; Rubin, R.J., Georgetown University School of Medicine; and Shapiro, J.R., Centers for Medicare & Medicaid Services, 2003.

demonstration is based on 100 percent of Medicare's portion of FFS (or approximately 80 percent of allowed charges) for Medicare-covered services delivered to demonstration-eligible Medicare beneficiaries.

In addition to analyzing overall medical costs, we also looked at two subcategories: Medicare-covered services only and services covered under the regular Medicare-risk contract (Table 4). Although the first subcategory closely approximates Medicare-covered services, it does include some services and costs that are not covered by Medicare—for instance, certain preventive services and the Medicare coinsurance and deductible. This category does not include the outpatient prescription drugs offered by the sites, nor does it include the extra benefits offered. Both Kaiser and HOI experienced costs for this category of services that were, in most cases, less than 90 percent of the capitation revenue (Table 4). If one excludes the Medicare coinsurance and deductibles from this category, we estimate that the sites expended approximately 80 percent of revenue on Medicare-covered services,[12] i.e., about 10 percent of revenue went toward covering the Medicare coinsurance and deductibles.

The addition of outpatient prescription drugs to subcategory of medical costs previously described essentially mirrors the

[12] Based on OACT's estimate that the typical Medicare cost-sharing responsibility for ESRD beneficiaries is $500 per month, or $6,000 per year, and on the average ESRD beneficiary on whom CMS' capitation rates were based, $6,000 is approximately 10 percent of total costs for Medicare-covered services (i.e., the amount covered by Medicare plus patient out-of-pocket costs).

package of services offered under the plans' regular Medicare-risk products. Again, the experience across sites and years was similar, with medical costs in this category ranging from 91 to 96 percent of capitation revenue.

Administrative Costs

As shown in Table 4, a comparison of administrative costs to total revenue revealed the following:

- In HOI's case, the significant overall improvement between 1998 and 1999 can largely be explained by the administrative economies of scale realized in 1999. That is, while demonstration-related administrative expenditures increased between 1998 and 1999 (from approximately $1.8 million to approximately $3.0 million), member months increased more dramatically during this period (from 1,926 in 1998 to 6,260 in 1999). While capitation revenues and medical expenses are variable costs that are largely determined by number and mix of members, a large portion of administrative costs are fixed or are only partially variable. As a result, administrative expenditures as a percentage of revenue decreased from 20.5 percent in 1998 to 10 percent in 1999, after which they leveled out at 9.5 percent.
- Kaiser's program experienced much lower administrative expenses (when expressed as a percentage of revenue)—5.7 percent in 1998, 3.9 percent in 1999, and 3.5 percent in 2000. Likely factors contributing to the difference between the HOI and Kaiser sites are size of membership (which affects per member per month (PMPM) direct administrative expenses); size of total health plan membership (which affects PMPM overhead administrative expenses); and differences in methodologies for allocating administrative expenses.
- Notwithstanding the differences between the sites relative to reported administrative expenses, both Kaiser and HOI experienced a considerable decrease in administrative expenses as a percentage of total revenue between the first and second years, with a leveling off in the third year.

Financial Impact on ESRD Beneficiaries

Value of Extra Benefits

Both South Florida and Southern California are highly competitive Medicare managed care markets, and the M+C payment rates in both areas are relatively high. As a result, Medicare-risk contractors in these markets traditionally have offered rich benefit packages, including outpatient prescription drugs, often with no cost sharing and at zero premium. Table 5 shows the demonstration extra benefits, over and above the regular Medicare-risk program package of benefits, offered by Kaiser and HOI for CYs 1998, 1999, and 2000, along with the PMPM dollar value of these benefits and the percentage of capitation revenue they represent.

Value of Prescription Drug Coverage

There were a number of benefits offered by the sites that could not technically be counted as part of the 5 percent extra benefits, but that nevertheless may have been of significant value (either monetary or otherwise) to the demonstration enrollees. It is thus important to consider and quantify these benefits in assessing the demonstration's financial impact on ESRD enrollees.

- Prescription drug benefits are part of the regular Medicare-risk product at both Kaiser and HOI, and therefore, the majority of this benefit could not be

Table 5

End Stage Renal Disease Managed Care Demonstration's Value of Extra Benefits: Calendar Years 1998-2000

Extra Benefit	Per Member Per Month			Percent of Revenue		
	1998	1999	2000	1998	1999	2000
Kaiser Permanente						
Nutritional Supplements	$10.16	$10.69	$11.11	0.21	0.23	0.24
No Copay for Outpatient Visits	9.78	39.49	38.95	0.20	0.85	0.85
Total Extra Benefit	19.94	50.18	50.06	0.41	1.08	1.10
Health Outcomes, Inc.						
Nutritional Supplements	6.23	7.35	5.66	0.14	0.13	0.12
Transportation	2.60	6.71	1.27	0.06	0.12	0.03
Extra Pharmacy[1]	12.46	24.28	27.09	0.28	0.50	0.57
Rehabilitation Services[2]	—	73.32	89.31	—	1.24	1.87
Total Extra Benefit	20.77	111.66	123.33	0.46	2.31	2.58

[1] Includes a formulary that is broader than the regular Medicare-risk formulary. In addition, there is no annual or biannual cap on the demonstration pharmacy benefit, while there is on the regular Medicare-risk pharmacy benefit.

[2] Not offered as an extra benefit during the first year of the demonstration; phase in of this benefit commenced in year 2.

SOURCES: Dykstra, D.M. and Held, P.J., University Renal Research and Education Association; Beronja, N. and Menges, J., The Lewin Group; Gaylin, D.S. and Oppenheiner, C.C., National Opinion Research Center; Wolfe, R.A., University of Michigan; Rubin, R.J., Georgetown University School of Medicine; and Shapiro, J.R., Centers for Medicare & Medicaid Services, 2003.

counted technically as part of the 5 percent extra benefits. The value of this benefit to the demonstration enrollee, however, was significantly greater than the value of the benefit to the regular Medicare-risk enrollee, as ESRD patients utilize prescription drugs at a much higher rate than the average Medicare beneficiary. For example, HOI's reported PMPM cost of the pharmacy benefit for enrollees was approximately twice the PMPM cost for non-demonstration, non-ESRD Medicare-risk enrollees (about $180 PMPM versus about $90 PMPM in CY 1999). This represented an extra cost to HOI equal to almost 2 percent of its capitation revenue. The extra value of the benefit to the demonstration enrollee was likely significantly higher than $180 per month, as Medicare beneficiaries with no prescription drug coverage generally pay significantly higher prices for their drugs than do bulk purchasers. According to a study by the National Institute for Health Care Management, Research and Educational Foundation (2001), the average retail price per prescription is now more than $45; for the demonstration patient, who averaged about eight prescriptions per month, this translates to a prescription drug cost of $360 per month.

- Similarly, coverage of the Medicare Part A deductible and Medicare Part B coinsurance is an additional benefit offered by virtually all Medicare-risk contractors. However, the value of this benefit to demonstration enrollees far exceeds its value to the average Medicare-risk enrollee. As calculated by CMS, the average per capita actuarial value of the Medicare coinsurance and deductibles under traditional Medicare, based on Medicare beneficiaries nationally (the very large majority of whom are non-ESRD patients), has ranged from about $75 PMPM in 1998 to more than $100 PMPM in 2000. For the average ESRD patient in traditional Medicare, cost-share responsibilities are generally close to $500 per month, according to CMS' OACT. (For healthier demonstration enrollees, cost-sharing responsibilities would likely be somewhat lower, perhaps 10 to 15 percent.)

Thus, those demonstration enrollees who had no secondary coverage prior to the demonstration may have saved, on

average, more than $9,000 annually in out-of-pocket expenses ($4,000 in prescription drug expenses, and at least $5,000 in Medicare cost sharing) under the demonstration. For those with secondary coverage prior to the demonstration, similar savings likely accrued in part to those who had purchased the secondary coverage on the patients' behalf (either the patients themselves or, in some cases, their previous employers) and in part to private Medigap insurers.

DISCUSSION

The findings show that CMS' Medicare costs for the demonstration enrollees were greater under the demonstration than they would have been if these enrollees had remained in the FFS system; for this reason, managed care did not save CMS money. This finding mirrors that of several studies focusing on Medicare-risk contracting in general, which concludes that because Medicare-risk enrollees are generally healthier than the general Medicare population, even within demographically adjusted rate cells, Medicare pays more for Medicare-risk enrollees than they would have under FFS. We supplemented the Medicare-spending analysis by assessing the cost impact on Medicaid resulting from the enrollment of dually-eligible recipients into the demonstration. We found that considerable savings do accrue to Medicaid, but that these savings do not outweigh the additional costs to Medicare.

Interestingly, although the rates paid by CMS to the demonstration sites were significantly greater than the predicted FFS costs of demonstration enrollees (had they not participated), the sites did not experience anything resembling a windfall. In fact, both sites experienced financial losses in the first year, while HOI continued with losses in the second and third year, with Kaiser showing a small positive net income for both years. There are a number of possible explanations for this discrepancy:

- First, the opportunities for substantial savings are somewhat limited, and perhaps difficult to extract. The biggest cost drivers in the care of the ESRD patient are inpatient care, dialysis, erythropoietin (EPO), and vascular access. The frequency of dialysis is fixed, and it is thus difficult to achieve savings on that aspect of care. It appears that only Kaiser may have saved modestly on EPO and vascular access. Regarding inpatient care, the evaluation findings suggest that hospitalization rates for ESRD patients treated under managed care may be the same in the short term as those under Medicare FFS.
- Second, it may be true that demonstration enrollees catch up on their care during early years of enrollment, perhaps seeking care for certain comorbidities that they had previously forgone due to financial constraints.
- In addition, some of the potential savings for MCOs (e.g., through more effective care coordination) may not be realized for several years.

Certainly, the fact that the sites provided additional benefits to demonstration enrollees than are covered by Medicare contributes to their level of spending. Coverage of the Medicare deductible and coinsurance alone may well have cost the sites an average of $5,000 to $6,000 per enrollee per year. HOI in particular paid the majority of its non-facility providers on the basis of 100 percent of Medicare allowable charges, though the rates received from CMS were based on only 80 percent of allowable charges for Part B services. Thus, the sites would have had to achieve significant savings just to cover the additional costs associated

with this benefit. The costs of the prescription drug benefit were also significant (easily $2,000 to $4,000 per enrollee annually).

Perhaps because the sites were already covering significantly more services than are covered under Medicare even before adding extra benefits (nutritional supplements, transportation, rehabilitation services, and other benefits not offered to their regular Medicare-risk enrollees), they failed to meet the requirement that these extra benefits be equal to 5 percent of the capitation revenue (Table 5). Doing so was not financially viable for the health plans. As previously described, the cost to the HMOs of covering the Medicare coinsurance and deductibles and outpatient prescription drugs are much greater for the ESRD population than for the average Medicare beneficiary. In addition, in highly competitive markets where M+C benefits are already quite rich, it is difficult to add benefits that meet CMS' definition of extra benefits and for which the value is easily quantifiable. (However, this second constraint is becoming less of a factor as an increasing number of MCOs are reducing their benefits, particularly via increased copays and limits on drug coverage.)

It should be kept in mind that our assessment of financial implications from the sites' perspectives considered the sites' ESRD programs in isolation from their other lines of business (e.g., regular Medicare risk and commercial health plan populations). Should the barrier to enrollment of ESRD beneficiaries be eliminated; ESRD enrollees are likely to make up a very small portion of any health plan's total enrollment. Thus, any losses (or gains) experienced on the ESRD line of business may well be insignificant when spread across a plan's entire book of business.

CONCLUSION

The demonstration's financial effects embody a seeming contradiction: extra payment by CMS relative to what would have been paid under FFS, versus inadequate payment from the health plan perspective. Yet this is a paradox that exists within the broader M+C program as well. Berenson (2001) wrote:

"How does one reconcile the two views—on the one hand, that payments are too low, causing plans to withdraw; on the other hand, that payments are excessive in relation to per capita FFS spending? Perhaps plans need to be able to offer substantial additional benefits, at little or no extra cost, to entice beneficiaries to give up the freedom of choice and other perceived advantages of FFS… As payments have not kept up with costs, M+C plans are not able to be as generous with additional benefits and have either withdrawn, put on capacity limits restricting new enrollment, or cut back on their benefits. In short, plans are overpaid in relation to FFS, but underpaid in relation to what Medicare beneficiaries are seeking in the market."

A clear finding of the demonstration evaluation is that the key reason patients joined was financial; the economic benefits to the patient of prescription drug coverage and no patient cost sharing for medical services were compelling. In fact, the annual value of these benefits—at least to those ESRD patients who otherwise would have had no private or public insurance to pay for the services and charges not covered by Medicare—may well have averaged $10,000. However, the financial results for the sites themselves, as well as the general trends among M+C plans toward reducing benefits and increasing patient cost sharing, call into question whether the demonstration level of benefits

is sustainable. Certainly, if the sites had not covered the Medicare coinsurance and deductibles or prescription drugs, they would have experienced a favorable financial outcome. Even if the payment methodology were revised so that the payment more closely fit the healthier nature of those patients likely to enroll in managed care, such a reduced benefit package would likely result in a financially sustainable program. However, if MCOs would need to offer a reduced level of benefits in order to achieve financial viability, it is questionable as to whether there would still be sufficient perceived benefit to ESRD patients to cause them to enroll.

In summary, the financial implications of the demonstration—while something of a conundrum—are no different than those existing in the M+C program. The results of the demonstration suggest that ESRD beneficiaries in a managed care system can fare as well as or better from a clinical perspective than they would under FFS. Given this finding, there appears to be no compelling reason to continue to limit the choices ESRD beneficiaries have relative to health care coverage.

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