

ESTIMATES OF THE IMPACT OF SELECTED MEDICARE CHANGES

Prepared for:

The American College of Physicians

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EXECUTIVE SUMMARY

This report estimates the budgetary impact of selected changes proposed in the American College of Physicians position paper entitled “Reforming Medicare: Adapting a Successful Program to Meet New Challenges”. The report provides qualitative and quantitative descriptions of the impact proposed changes will have on the Medicare budget over FY 1998-2002. The changes to the Medicare program discussed in the report include:

- Institution of case management programs
- Expansion of bundled payment reimbursement mechanisms for selected procedures
- Establishment of a competitive bidding system for medical supplies and equipment
- Implementation of adjustments to Medicare risk payment methodology
- Addition of preventive care benefits and hospice-like services.

All estimates are based on the Congressional Budget Office’s January 1997 baseline forecast budget.

Case Management

The report examines three types of case management programs which HCFA could implement for Medicare beneficiaries. The first type involves selecting catastrophically ill, high cost beneficiaries and placing these individuals in a case management program designed to deliver necessary medical care in a outcomes-enhancing and cost efficient manner. Estimates of the budgetary impact of such a program are based, in part, on a previous Lewin Group report which compared the difference in cost of treating catastrophically ill patients through hospitalization versus treating the same group of patients through a case management strategy designed to

encourage use of home health care over hospitalization.¹ The report estimates that the institution of high cost case management will save between \$5.8 and \$84.2 billion over the five year period. The estimates include the cost of identifying high cost beneficiaries and of implementing the case management program. The range of estimated savings reflects differences in the percentage of eligible beneficiaries who would choose to participate in a case management program and the program's effectiveness.

The second type of case management considered in the report involves the implementation of disease specific programs designed to improve outcomes and reduce the costs associated with treating individuals within high cost disease categories. The two diseases examined for the possibility of implementing these programs are Insulin Dependent Diabetes Mellitus and Asthma. Although there has been very little rigorous evaluation of the cost impact of specific disease management strategies to date, several health care providers and health plans have claimed substantial reductions in the cost of treating patients with these conditions through disease management. The claims of several of these groups are discussed in the report.

The final type of case management considered in the report is general case management in which HCFA would implement a program reimbursing physicians and health plans to carry out case management functions for all Medicare beneficiaries. The implementation of such a program was estimated to produce a \$4.1 billion dollar savings over 5 years, assuming that HCFA would pay individual physicians a fixed monthly amount to carry out case management activities for each beneficiary.

Expanded Bundled Payment

Bundled payment mechanisms involve consolidating the reimbursement for hospital based procedures into one payment covering physician fees, hospital fees, and post-acute care service fees. The report estimates the cost impact of using a bundled payment reimbursement mechanism for coronary artery bypass graft surgery (CABG) (DRGs 106 and 107), cataract removal (CPT-4s 66984, 66821, 00142), cardiac catheterization (DRGs 124 and 125), and hip and knee replacement (DRG 209). The savings associated with reimbursing all of these procedures through a bundled payment system is estimated to be \$8.2 billion. This estimate is calculated using the results of a previous report evaluating HCFA's CABG demonstration project.² This evaluation quantified the change in cost associated with implementing a bundled payment methodology. The report presents separate estimates of reductions on the cost of home health care services associated with episode-based payment mechanisms. The savings associated with the implementation of this system is estimated to be \$13.7 billion over the five year period.

Established Competitive Bidding for Medical Supplies and Equipment

The report estimates the costs associated with establishing a competitive bidding mechanism for pricing high volume medical supplies and equipment. Such a system would be more responsive

¹ The Lewin Group, *An evaluation of the CHAMPUS home health care-case management program*, 1992.

² HCFA, *Medicare Participating Heart Bypass Center Demonstration*, Extramural Research Report, November 1995.

to market forces than the current fixed fee system. Estimates of budgetary impact were developed assuming HCFA efforts to establish a regional competitive bidding process for purchasing parenteral nutrients, supplies & equipment, and MRIs and CAT scans. The savings associated with the establishment of such a process is estimated to be \$0.4 billion over the five year period.

Modifications to the Medicare Risk Payment Methodology

The report discusses five potential changes to Medicare's risk payment methodology. These include:

- 1) Reducing current AAPCC payments to eliminate the risk selection advantage -- The report provides estimates of the impact of reducing AAPCC payments to eliminate risk selection advantage by considering a reduction in the AAPCC percentage of five percentage points (from 95 to 90 percent). Savings associated with such a reduction are estimated to be \$13.6 billion over the five year period.
- 2) Establishing increased parity across geographic areas -- The impact of increasing the parity of risk payment across geographic areas is considered by blending national input-price-adjusted per capita rates with county level AAPCC rates, an approach examined by both the Physician Payment Review Commission (PPRC) and the Prospective Payment Assessment Commission (ProPAC). The estimates are based on two scenarios: one where county level AAPCC rates constitute 75 percent of the actual payment rate and a second where the county level AAPCC rates constitute 50 percent of the actual payment rate. Savings associated with the 75 percent county specific proportion are estimated to be \$1.2 billion over the five year period while savings associated with the 50 percent proportion are estimated to be \$2.1 billion over the same time period.
- 3) Developing a system where rates are established via competitive bidding by health plans -- The institution of a competitive bidding mechanism for determining payment rates is estimated to produce \$14.1 billion in savings over the five year period. This estimate is based on figures generated in a previous Lewin Group report for the Progressive Policy Institute.³
- 4) Establishing risk-adjusted payments -- The implementation of a system developing risk adjusted rates is estimated to generate a savings of \$9.6 billion over the five year period.
- 5) Capping the rate of growth of AAPCC payments -- The implementation of a rate increase cap is estimated to generate \$12.9 billion in savings over the same time period.

Adding Preventive Care/Hospice Benefits

The last potential changes in Medicare policy discussed in the report involve the extension of preventive care and hospice-like care benefit programs. With regards to preventive care, the report focuses on studies analyzing the cost effectiveness of influenza vaccination among the

³ Sheils, J., Claxton, G. and Haught, R. *Medicare Reform Options: An Analysis of Private Coverage, Beneficiary Spending and the Budget* Fairfax, VA: The Lewin Group, April 1996.

elderly. The report also details Medicare’s current Influenza Vaccination Program and estimates the budgetary impact of increasing the percentage of Medicare beneficiaries receiving the influenza vaccine. The cost associated with increasing the influenza vaccination rate to 90 percent of the Medicare population is estimated at \$0.13 billion. This estimate considers the reduction in influenza related hospitalizations, as well as the costs associated with administering the vaccination.

Estimates of the change in Medicare spending associated with extending hospice-like benefits to the terminally ill are not provided because of difficulties in estimating the eligibility criteria for such a program. A Los Angeles hospice-like benefits program called “OPTIONS” is discussed in the report.

Combined Provisions

The last section of this report provides an overview of the estimated budgetary impact in all five areas of Medicare reform considered. With the exception of increasing the percentage of Medicare beneficiaries receiving influenza vaccinations, the estimates show that the proposed changes could bring about savings over the next five years. The estimate of the combined effect of the reforms presented by the American College of Physicians is calculated using selected provisions from the five areas considered. The mid range estimate for high cost case management, the four procedure-based bundled payment estimates (CABG, cataract, cardiac catheterization, and joint replacement), as well as the impact associated with competitive bidding for medical supplies, risk adjusted HMO payments, and an increase in influenza vaccination rate are combined to estimate overall budgetary impact. Using this methodology savings are estimated to be just under \$65 billion.

I. Introduction

This report provides estimates of the change in Medicare expenditures as a result of some of the key proposals endorsed by the American College of Physicians. The College’s position paper, “Reforming Medicare: Adapting a Successful Program to Meet New Challenges,” outlines a comprehensive review of Medicare and indicates a realignment of the process for delivering care. This realignment would focus on encouraging a more coordinated and comprehensive approach to providing care to Medicare beneficiaries with chronic illnesses. It also includes suggested changes in Medicare payment policy (e.g., expanded “bundled payment” and competitive bidding) and the inclusion of additional covered services (e.g. case management, hospice-type services, and preventive care).

In developing cost estimates, we focused on five key components of the proposal:

1. Instituting high cost case management;
2. Expanding bundled payments, such as the current CABG demonstration, to other services;
3. Establishing competitive bidding for medical supplies and equipment;

4. Modifications to the Medicare risk payment methodology; and
5. Adding preventive care benefits and hospice-like services outside of the hospice setting.

Below, we describe the assumptions used in estimating the change in Medicare expenditures for each proposal and the resulting estimates. We provide fiscal year estimates for 1998 to 2002 based on the Congressional Budget Office (CBO) January 1997 baseline.⁴ All policies are assumed to be fully implemented in 1998 except where noted.

II. Case Management

The term case management refers to the development of specific strategies to approach the treatment of high cost clinical conditions in ways that achieve favorable outcomes and cost efficiency. Case management approaches often specify the course of action providers and administrators should take when planning the delivery of health care to patients. A particular case management approach may specify the place of service, type of providers, and type of medical technologies appropriate for caring for persons with a given clinical condition in a way that encourages favorable outcomes and cost-efficiency.

We examined three types of case management: 1) high cost case management that targets individuals with diagnoses or other circumstances that indicate that their medical costs will be substantially above the norm; 2) disease management which targets specific chronic illnesses, such as diabetes; and 3) payments per beneficiary to the beneficiary's primary physician either included in an overall capitated payment or as a monthly amount specifically for case management. Table 1 summarizes our estimates.

Table 1
Estimated Impact on Medicare Expenditures
of Instituting Case Management, FY 1998-2002
(amounts in billions of nominal dollars)

	1998	1999	2000	2001	2002	1998-2002
High Cost						
Low Range	-\$1.15	-\$1.16	-\$1.08	-\$1.24	-\$1.15	-\$5.78
Physician Resp.	-\$6.72	-\$7.07	-\$7.31	-\$7.83	-\$8.09	-\$37.03
High Range	-\$15.22	-\$16.04	-\$16.68	-\$17.79	-\$18.51	-\$84.24
Disease Specific	NA	NA	NA	NA	NA	NA
General	\$0.50	\$0.63	\$0.95	\$0.80	\$1.18	\$4.07

⁴ Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1998-2007*, January 1997.

A. High Cost Case Management

Delivering health care in settings other than hospitals has been a strategy employed by purchasers to reduce the cost of treating catastrophically or chronically ill patients. A Lewin Group report evaluated the OCHAMPUS home health care case management program. The program was designed to use less intensive settings for the delivery of health care to a population of catastrophically ill patients for whom home health care was determined to be less costly than traditional hospital based care.⁵ The report provides a cost analysis by estimating the costs of treating catastrophically ill patients in certain diagnosis categories through hospitalization and comparing those costs to the costs incurred delivering home health care services to the same patient population through CHAMPUS's case management program. The cost of administering the case management was also included in calculating the total cost impact. The results of the analysis showed that, nationwide, home health care case management reduced overall costs for all catastrophically ill patients except those whose primary diagnosis was a mental health disorder. Home health case management produced the greatest savings for catastrophically ill patients whose primary diagnosis involved congenital disorders, infectious diseases or endocrine disorders.⁶

Other analyses of the cost-effectiveness of case management have found that well targeted efforts can reduce expected spending between four and 24 percent, depending upon the population, techniques used, and whether the cost of case management was accounted for in the estimate.⁷ Given the wide range of estimates of the impact of high cost case management, we present a range of potential savings. To generate a high participation rate in the program, we assumed that either HCFA, or a contractor on its behalf, would identify persons who might potentially benefit from high cost case management through claims data analysis. High cost cases were defined as those expected to exceed \$10,000 in a year. Among Medicare fee-for-service beneficiaries in 1994, approximately 12 percent had Medicare payments of \$10,000 or more. Once potentially high cost beneficiaries were identified, the contractor would notify the beneficiary's physician, as well as the beneficiary, that he or she meets the criteria for the case management benefit. Under the low range estimate, we assumed that 50 percent of those potentially eligible for the program would participate and that the savings for those participating would be 10 percent less the increased cost of the case management function. We assumed that the case management function would require two to three contacts with a registered nurse per month at an annual cost of approximately \$2,800 in 1998. Under the high range estimate, we assumed that 80 percent of those potentially eligible for the program would participate and that the savings for those participating would be 25 percent less the cost of case management. The middle range estimate assumes that physicians would be primarily responsible for the case management functions. We

⁵ The Lewin Group, *An evaluation of the CHAMPUS home health care-case management program*, 1992.

⁶ Ibid.

⁷ Gabel, J. et al. (1989) *Research Bulletin: Trends in Managed Health Care*, Health Insurance Association of America; Scheffler, R, Sullivan, S, and Haochung Ko, T. (Fall 1991) "The Impact of Blue Cross and Blue Shield Plan Utilization Management Program, 1980-1988," *Inquiry*, pp. 263-71; Wickizer, T, Wheeler, J, and Feldstein, P. (June 1989) "Does Utilization Review Reduce Unnecessary Hospital Care and Contain Costs?" *Medical Care* 27(6), pp. 632-47.

assumed that 50 percent of those potentially eligible for the program would participate and that the savings for those participating would be 20 percent less the cost of case management.⁸

These assumptions result in a range of savings from \$6 billion to \$84 billion for the fiscal year 1998 to 2002 period. The range emphasizes the importance of obtaining wide participation among the targeted population so that any reductions in health care expenditures can offset the increased cost of providing case management.

B. Disease Management

Many health care providers and insurers have begun exploring the potential of disease management for chronic illnesses. The high costs associated with chronic illness are attributable, not only to the direct cost of treating the illness, but also the cost of treating co-morbidities and other medical conditions associated with the illness. While many have claimed substantial savings, the techniques and protocols for disease management tend to be in their infancy and, to date, have not been formally evaluated. Therefore, we did not estimate the change in Medicare expenditures associated with implementing disease management strategies. We do, however, provide a discussion of the literature regarding disease management for diabetes and asthma.

1. Diabetes

A study conducted by Robert H. Rubin et al. showed that the cost of treating individuals with diabetes accounted for 15% of all compensated health care expenditures in 1992. This number is significant considering the same study estimated that only 4.5% of the US population in 1992 had diabetes.⁹ More recently, a study focusing on the costs of treating general medical conditions associated with diabetes showed that individuals with diabetes are more likely to be hospitalized for conditions which are not chronic complications of the illness.¹⁰ Moving toward an organized approach to treating chronic illnesses such as diabetes has been suggested as a way of increasing the effectiveness of health care expenditures spent in treating such conditions.

One approach to managing the treatment of Insulin Dependent Diabetes Mellitus is the institution of an intensive therapy regimen. This regimen seeks to consistently maintain blood glucose levels near the range for non-diabetics by increasing the number of daily insulin injections to at least three per day, requiring individuals to monitor their own blood glucose levels four times

⁸ We assumed that physicians would undertake case management functions for one-half of the potential eligibles under a program where physicians have primary responsibility for developing complete care plans, coordinating services and tracking care across all settings. This percentage is lower than under a proposal where an outside organization is charged with these responsibilities because of the added administrative burden it places on physicians.

⁹ Rubin, RJ, Altman, WM, and Mendelson, DN. (1994) "Health care expenditures for people with diabetes mellitus, 1992," *Journal of Clinical Endocrinology and Metabolics* 78:809A-809F.

¹⁰ Fox, NR, Thamer, M, Taylor, T, Fehrenback, SN, and Ratner, R. (1996) "Hospitalization and expenditures for the treatment of general medical conditions among the US diabetic population in 1991," *Journal of Clinical Endocrinology and Metabolics* 81:3671-3679.

daily, and instituting monthly visits with a team of providers focused on treating diabetes.¹¹ This new regimen is more intensive than conventional IDDM therapy which involves two insulin injections per day and quarterly physician visits. A computer simulation study conducted by the Diabetes Control and Complications Trials Research Group at the National Institute of Health shows that the regimen decreases the incidence of late complications associated with diabetes. The simulation did not show, however, that intensive therapy would immediately decrease the overall cost of treating diabetes. In fact the lifetime costs of treating individuals with IDDM was greater with intensive therapy than with conventional therapy even when considering the lower incidence of long term complications. The simulation did not consider the cost reductions from potential decreases in hospitalization for general medical conditions not considered long term complications, nor did it consider the potential savings once the cost of implementing and sustaining intensive therapy decreases. The authors did indicate that reducing the cost of delivering intensive therapy by 50% would make the lifetime cost associated with treating diabetes with intensive therapy comparable to costs under conventional therapy. Even with the current elevated costs associated with intensive therapy the authors claim that, because of intensive therapy's ability to reduce complications and improve the length and quality of life, it represents a cost-effective approach to treating IDDM.¹²

The Diabetes Treatment Centers of America is among the health care organizations implementing a managed, intensive therapy approach to treating diabetes. They report having lower Emergency room visit and hospitalization rate for their diabetes population than national averages, although they acknowledge these comparisons should be considered in light of demographic differences in the populations being assessed. They attribute these reductions to strict control of blood sugar rates and adherence to treatment plans. While they have yet to report specific data on costs savings they claim that their intensive therapy regimen decreases costs while improving outcomes.¹³

2. Asthma

Several hospitals and health plans have reported decreases in the cost of treating asthma after the institution of disease management programs. Health plans attribute most of these savings to reductions in emergency room use and hospitalization by asthma patients.

Harvard Pilgrim Health Plan claims savings of \$605,000 in treating sufferers of adult asthma and an additional \$465,000 in treating pediatric asthma during 1995 as a result of their disease management program. The program involves the use of clinical guidelines, case management, and increased physician and nurse involvement in educating asthma patients on how to use steroid inhalers and peak flow meters. Figures released by the health plan showed a 14% reduction in emergency room use among pediatric asthma enrollees from 1994 to 1995, after the institution of the program. Furthermore, the plan claims that inpatient hospitalizations fell by

¹¹ The Diabetes Control and Complications Trials Research Group. (1996) "Lifetime benefits and costs of intensive therapy as practiced in the diabetes control and complications trial," *Journal of the American Medical Association* 276:1409-1415.

¹² Ibid.

¹³ "DTCA Posts Utilization, Clinical Gains from Program," *Disease Management News* 11/10/96.

40% for pediatric asthma patients and 10% for adult asthma patients during the same time period.¹⁴

Anthem Blue Cross and Blue Shield is another health plan announcing significant reductions in hospital and emergency room use associated with the treatment of asthma after the institution of disease management. A study on the impact of Anthem's 'Healthy Solutions Asthma Care' program conducted by Health Outcomes Institute found a 18% reduction in hospital admission and emergency service use after the institution of a program designed to educate asthma patients about asthma triggers, flareups, and dosage adjustments for medications.¹⁵

In addition to health plan initiatives, Vanderbilt Children's Hospital also claims the potential for reducing emergency room and hospital use subsequent to the institution of disease management programs for treating pediatric asthma. With the establishment of an asthma center in 1996 and initiation of programs involving standardizing asthma education, monitoring patient knowledge and skills, and arranging for 'asthma resource coordinators' on call, the hospital claimed to have reduced ER visits by 61% and hospital admissions by 70% among 28 patients targeted for study.¹⁶

C. General Case Management

Reimbursing physicians and health plans for case management functions for potentially all beneficiaries is a third form of case management considered for this analysis. Under this arrangement, HCFA could pay a fixed monthly amount per beneficiary or establish a payment for case management claims from physicians. While the broader form of case management payment per beneficiary would be simple to implement within the context of the AAPCC, several logistical issues would need to be addressed for a separate fee-for-service payment. One option would be for HCFA to establish a payment for case management claims from physicians. However, for case management to produce reductions in expenditures, a coordinated and systematic effort on the part of the physician would be required. Many physicians may lack the time and expertise to effectively manage cases in the same manner as an organization devoted to this function. A second option would be to pay physicians a set monthly amount per beneficiary for case management activities. This approach might be similar to primary care case management (PCCM) in many state Medicaid programs -- although part of the purpose of this payment in the Medicaid program is to overcome access barriers that may not be applicable for Medicare beneficiaries. This approach would require HCFA to institute a program to recruit physicians to perform case management functions for all of their patients. HCFA would need to design the program to ensure that only one physician would receive a case management payment for any given beneficiary.

To estimate the impact of paying providers a fixed monthly amount per beneficiary, we primarily relied on the data used for estimating costs and savings associated with high cost case management. We assumed that providers would receive payments equal to the expected cost for

¹⁴ "Harvard Plan's Asthma Program Said to Slash ER Use," *Disease Management News* 1/10/97.

¹⁵ "Anthem Posts Gains from Asthma, Cardiac Programs," *Disease Management News* 2/10/97.

¹⁶ "Vanderbilt Pediatric Asthma, CF Efforts Cut Utilization," *Disease Management News* 1/25/97

case management for all persons with Medicare expenditures above \$10,000 divided by the total number of Medicare beneficiaries. This calculation resulted in a little over \$19 per month per beneficiary in 1998. This amount could be made part of AAPCC payments for risk plans and reimburse primary physicians under fee-for-service. We assumed the program's effectiveness would fall between the low and high range presented above with a reduction in 15 percent of costs among one-half of potentially eligible beneficiaries. Given that this program is not well targeted, we assumed the lower range for participation among those with expenditures over \$10,000. The result is a net cost to the Medicare program of \$4 billion over the fiscal year 1998 to 2002 period.

III. Expand Bundled Payments

Currently HCFA pays hospitals based on a prospective payment system (PPS) based on diagnostic-related groups (DRGs). Physicians are paid for services, including those delivered in a hospital, under a separate fee schedule system. Post-acute care services, such as skilled nursing facility care, home health, and rehabilitation hospitals are generally paid on a cost basis. The goal of bundled payments is to provide a global fee for hospital-based procedures or other definable services that include physician services in order to align incentives to encourage physicians to use institutional resources in a more cost effective manner. By encouraging physicians to consider care across settings, it is expected that a focus on the best possible treatment protocol will produce better outcomes.

To select potential targets for bundling, we used several high volume procedures identified by the Health Care Financing Administration (HCFA) for demonstrations regarding bundled payments - coronary artery bypass graft (CABG) (DRGs 106 and 107), cataract removal (CPT-4s 66984, 66821, 00142), cardiac catheterization (DRGs 124 and 125), and hip and knee replacement (DRG 209). For the DRG-based services, the expenses during the hospital stay and 90 days following the stay were included as part of the payment bundle. These data were based on a HCFA created episode-based file that includes all Part A and B claims for hospital admissions during February through June 1992. Data for the cataract services were based on a 1996 HCFA publication, *1996 Data Compendium*.

In order to estimate the potential change in Medicare payments related to bundled payments, we relied on the results of the CABG demonstration evaluated by The Lewin Group and Health Economic Research. The evaluation found that during the demonstration at four hospitals, expected Medicare payments for CABG procedures were reduced by 14 percent.¹⁷ Therefore, we assumed that similar reductions could be achieved for 80 percent of all the selected fee-for-service procedures provided.¹⁸ Table 2 presents our estimate of the expected change in Medicare payments.

¹⁷ HCFA, *Medicare Participating Heart Bypass Center Demonstration*, Extramural Research Report, November 1995.

¹⁸ We applied the 14 percent reduction to 80 percent of procedures because it is expected that not all hospitals and physicians would participate in a bundled payment program.

Table 2
Estimated Impact on Medicare Expenditures of
Instituting Bundled Payments for Selected Services, FY 1998-2002
(amounts in billions of nominal dollars)

	1998	1999	2000	2001	2002	1998-2002
Procedures						
CABG	-\$0.68	-\$0.72	-\$0.76	-\$0.80	-\$0.84	-\$3.80
Cataract Removal	-\$0.33	-\$0.35	-\$0.37	-\$0.39	-\$0.42	-\$1.87
Cardiac Cath.	-\$0.23	-\$0.24	-\$0.26	-\$0.27	-\$0.29	-\$1.29
Joint Replacement	-\$0.23	-\$0.24	-\$0.25	-\$0.27	-\$0.28	-\$1.28
Total						-\$8.24
Home Health	-\$1.39	-\$2.40	-\$2.82	-\$3.26	-\$3.80	-\$13.67

We also examined changes in spending related to using an alternative payment system for home health. Medicare currently reimburses home health agencies on a cost basis, subject to limits. The limit is 112 percent of the average of the labor-related and non-labor per unit costs provided by free-standing home health agencies for each of the covered disciplines (nursing, physical therapy, occupational therapy, speech-language pathology services, medical social services, and home health aides). This limit is applied in the aggregate. This means that an agency's total allowable costs for all visits must be equal to or less than the sum of the cost limits by discipline multiplied by the number of visits the agency provided for each discipline.

Medicare home health expenditures have grown rapidly over the past five years after relatively slow growth during most of the 1980s. The majority of the growth in expenditures resulted from increases in the number of visits per home health user and the number of home health users per 1,000 Medicare beneficiaries. One of the goals of the episode-based payment proposals for Medicare home health, discussed below, is to curb the growth in home health visits per user.

We based our examination on the proposal included in the Fiscal Year 1996 reconciliation provisions of the Conference Report to the Balance Budget Amendment. We based our estimates of the impact of modifying home health payment shown in Table 2 on CBO projections. The payment system changes in this proposal are often referred to as a prospective payment system for home health, but as described below, it does not pay agencies a fixed amount for each individual episode of care. Instead, it combines per visit payments with aggregate payment goals for each agency that are based on average episodes of care.

- Per visit rates -- In fiscal year 1998, home health agencies would be paid for visits based on a per visit rate for each discipline based on the 1994 national average with the labor portion adjusted by area wage differences. The per visit rate would increase based on changes in the home health market basket less 2.0 percentage points.

- Aggregate payment limits -- Total payments for visits over the course of a cost reporting period would then be compared to an aggregate limit for each home health agency. The aggregate limit would be based on episode limits for each case mix category (120 continuous days following 60 days without home health) times the number of episodes for each category the agency delivered.
- Exceptions -- Payments for home health visits furnished to an individual on or after a continuous period of more than 165 days would not be included in an agency's aggregate limit.
- Bonus payments and payment reductions -- Home health agencies that have visit-based payments less than the aggregate limit would retain 50 percent of the savings up to five percent of total Medicare payments to the agency (bonus payment). Home health agencies that exceed the aggregate limit would have payments in the following year reduced to recapture the amount in excess of the aggregate limit.

While some of the features of this particular proposal have been criticized (particularly excluding payments for days 121 to 164 from the payment policy), it provides one concrete example of the budgetary impact of changes to home health payments. President Clinton has proposed an interim payment system while a PPS system is developed. CBO estimates that this proposal would save a similar amount -- \$12.8 billion between 1998 and 2002.

IV. Establish Competitive Bidding for Medical Supplies and Equipment

By establishing competitive bidding for Medicare's highest volume medical supplies and equipment, the current inflexible fee schedule will be replaced with a pricing mechanism more responsive to market forces. President Clinton's Fiscal Year 1998 budget identified enteral & parenteral nutrients, supplies & equipment, and MRIs and CAT scans for a regional competitive bidding process. Therefore, we estimate the change in Medicare expenditures as a result of these efforts. Similar to the bundled payment impact, we assumed that competitive bidding would result in a 15 percent reduction in expected spending for these services. The estimated impact on Medicare expenditures is presented in Table 3.

Table 3
Estimated Impact on Medicare Expenditures of Instituting Competitive Bidding for Selected Medical Supplies and Services, FY 1998-2002
(amounts in billions of nominal dollars)

1998	1999	2000	2001	2002	1998-2002
-\$0.06	-\$0.07	-\$0.07	-\$0.07	-\$0.08	-\$0.35

V. Modifications to the Medicare risk payment methodology

Medicare pays risk plans based on an actuarial projection of the expected payment if the beneficiary had remained in the traditional fee-for-service sector. HCFA recalculates these rates every calendar year based on estimates of national average spending, county spending, and beneficiary characteristics. The projected risk-weighted per capita payments are known as the adjusted average per capita costs (AAPCC). Once county-level payment rates are determined, HCFA pays plans 95 percent of this amount. The payment methodology has been criticized for: 1) failing to adequately risk adjust payments; 2) excessive variation among county rates; and 3) not permitting market forces to set payment rates. Policymakers have proposed several options for modifying Medicare risk payments.

We estimated the impact of five potential changes to the Medicare risk payment methodology:

- Reducing current AAPCC payments to eliminate the risk selection advantage, specifically reducing the percentage of payments from 95 to 90 percent;
- Establishing increased parity across geographic areas;
- The use of competitive bidding by health plans rather than HCFA established rates (i.e., the AAPCC methodology);
- Establishing risk-adjusted payments; and
- Capping the rate of growth for AAPCC payments.

Table 4 provides a summary of the estimated change in Medicare expenditures for each of the proposals. Each of these estimates are for the particular proposal independent of any other proposals. HMO payment changes that still rely on fee-for-service payments to set rates will have an added impact in combination with changes to fee-for-service payments. In the last section, we provide an example of combined cost estimates.

Table 4
Estimated Impact on Changes to the Medicare
Risk Payment Methodology, FY 1998-2002
 (amounts in billions of nominal dollars)

	1998	1999	2000	2001	2002	1998-2002
Reduce % from 95% to 90%	-\$1.71	-\$2.21	-\$2.93	-\$2.96	-\$3.76	-\$13.55
Geographic Adjustment						
75% blend	-\$0.15	-\$0.20	-\$0.27	-\$0.27	-\$0.34	-\$1.23
50% blend	-\$0.26	-\$0.34	-\$0.45	-\$0.45	-\$0.57	-\$2.06

Competitive Bidding	-\$0.79	-\$1.50	-\$2.51	-\$3.70	-\$5.51	-\$14.01
Risk Adjustment	\$0.00	\$0.00	-\$2.93	-\$2.96	-\$3.76	-\$9.64
Rate Increase Cap	\$0.00	-\$1.08	-\$2.20	-\$4.01	-\$5.64	-\$12.92

A. Reducing the Percentage for AAPCC Payments

Research has suggested that due to favorable risk selection, Medicare HMOs receive higher payments than HCFA intends.¹⁹ As a result, policymakers have suggested a short-run solution of reducing the percentage of the AAPCC used in setting HMO rates. President Clinton's 1998 budget included a provision to reduce the AAPCC percentage from 95 to 90 percent. As an example of this type of proposal, we estimated the effect of changing from 95 percent to 90 percent of the AAPCC. In developing this estimate, we assumed that the change would have no effect on expected HMO enrollment in the short-run.²⁰

B. Geographic Adjustments

Geographic variations in AAPCCs reflects local differences in fee-for-service Medicare expenditures due to service use patterns, input price adjustments and Medicare payments for special purposes. One approach explored by the Physician Payment Review Commission (PPRC) and the Prospective Payment Assessment Commission (ProPAC) would blend national input-price-adjusted per capita rates with the county-level AAPCC.²¹ The report examined both using 75 percent and 50 percent of the county-specific AAPCC. While the overall impact on Medicare expenditures is relatively small, the changes among central urban counties versus rural areas shown below would be more dramatic.

	75% AAPCC	50% AAPCC
All counties	-0.5%	-0.8%
All Urban	-1.2%	-2.2%
Central	-3.4%	-6.8%
Other	0.3%	0.8%
All Rural	2.4%	4.9%
Urban Fringe	1.8%	3.9%
Other	2.8%	5.7%

¹⁹ Brown et al., *The Medicare Risk Program for HMOs -- Final Summary Report on Findings from the Evaluation* Princeton, NJ: Mathematica Policy Research, February 18, 1993.

²⁰ This assumption is consistent with the Congressional Budget Office's assumptions in developing estimates of the impact of Medicare HMO payment changes included in President Clinton's FY 1998 budget proposal.

²¹ Physician Payment Review Commission and Prospective Payment Assessment Commission, *Joint Report to the Congress on Medicare Managed Care*, October 1995.

In developing the estimates in Table 4, we assumed that the geographic adjustment would have no effect on expected HMO enrollment in the short-run.

C. Competitive Bidding

The term “competitive bidding” covers a variety of systems for awarding contracts intended to obtain prices that accurately reflect HMO costs in a competitive market. HCFA is currently exploring establishing demonstrations to test the concept of competitive bidding and evaluate its effects. For the Progressive Policy Institute (PPI), The Lewin Group estimated the potential impact of one program of competitive bidding.²² Under this proposal, beneficiaries would be permitted to enroll in other private plans, such as Preferred Provider Organizations (PPOs) and fee-for-service indemnity plans. Medicare payments to health plans under this program would be determined on the basis of competitive bids solicited from private insurers rather than the average area beneficiary cost data used in the current risk contract program. Many beneficiaries who do not enroll in the HMO options available under the current risk contract program may be willing to enroll in newly available private health plans with less stringent managed care features, such as PPO and point-of-service (POS) plans. Providing this range of options is projected to increase private plan enrollment to over 50 percent by 2002.

In order to estimate the impact of competitive bidding, we used the estimates from the PPI report and adjusted them to reflect CBO’s more recent Medicare projections. In estimating the impact of this proposal, we did not include the provision that required those remaining in the traditional Medicare program to pay the difference between the fee-for-service Medicare program costs and the average bid amount in each area through higher cost sharing.

D. Risk-Adjusted Payments

As indicated earlier, the payment method to Medicare risk plans does not adequately reflect the relative risk of each plan’s enrollees. Research has indicated that healthier beneficiaries enroll in HMOs.²³ As a result, Medicare overpays HMOs approximately 5.7 percent. Several HCFA research projects are exploring alternative risk adjustors. In order to estimate the impact of an improved risk adjustment payment methodology, we assumed that the new method would be able to reduce overpayments by the amount attributable to risk selection, five percent, beginning in the year 2000. In developing this estimate, we assumed that the change would have no effect on expected HMO enrollment in the short-run.

E. Capping the Rate of Growth of Payments

Another approach to severing the tie between fee-for-service payments under Medicare and risk plan payments would be to cap the rate of growth in risk plan payments by a set amount. To estimate the effect of this type of proposal, we assumed that beginning in 1998, risk plan payments would increase five percent annually. The Balance Budget Act of 1995 included a

²² Sheils, J., Claxton, G. and Haught, R. *Medicare Reform Options: An Analysis of Private Coverage, Beneficiary Spending and the Budget* Fairfax, VA: The Lewin Group, April 1996.

²³ Brown et al., 1993.

provision to cap Medicare risk payments to five percent annual growth. In developing this estimate, we assumed that the change would have no effect on expected HMO enrollment in the short-run.

VI. Adding Preventive Care/Hospice Benefits

Expansion of preventive care benefits and the extension of hospice benefits would provide the Medicare program with additional tools for potentially reducing the incidence of disease and relieving pain and suffering associated with chronic disease. Below, we discuss each of these areas in turn.

A. Preventive Care

Preventive care focuses on maintaining health through providing clinical interventions early in the course of a disease or before its onset. Evidence that early interventions can improve patient outcomes and reduce health system cost fuels the development of preventive care strategies. Commonly used preventive care interventions include screening tests, counseling interventions, immunizations, and chemoprophylactic regimens. Preventive care strategies often recommend these interventions for asymptomatic individuals in the hopes of detecting or combating potential disease states.²⁴

1. Medicare Covered Preventive Care Benefits

Current Medicare reimbursement provides coverage for all the ACP recommended preventive care benefits including an annual primary care physician visit, screening (primarily for cancer) and immunizations. Medicare covers one mammography every two years for all female beneficiaries over age 65, and one pap smear every three years for all female beneficiaries. More frequent pap smear services are covered for females determined to be at high risk for developing cervical cancer. In addition to screenings, Medicare also covers a number of immunizations for its fee-for-service population. These include vaccinations for hepatitis B, pneumococcal pneumonia and influenza. The following sections describe the clinical efficacy and cost-effectiveness of influenza vaccinations within the context Medicare's influenza vaccination program and its potential impact on patient outcomes and Medicare costs.

2. Influenza Vaccination, Clinical efficacy and Cost-Effectiveness

Several articles recently published in medical literature address questions of efficacy and cost-effectiveness of influenza vaccination among the elderly. Most start by recognizing influenza as a leading, yet preventable cause of mortality, morbidity, and health system costs for the elderly. Researchers and public health officials hope that through quantifying overall cost savings attributed to influenza prevention, they will encourage health plans and purchasers to adopt programs designed to increase the percentage of the elderly population who receive flu shots.

²⁴ Report of the U.S. Preventive Services Task Force. *Guide to Clinical Preventive Services*. William & Wilkins 1989.

A review of existing literature conducted by Gross et al. found that several studies demonstrate a link between influenza vaccinations among elderly populations and a reduction in the frequency of death and hospitalization associated with influenza. One part of their project involved the meta-analysis of 20 observational studies looking at the differences between vaccinated and non-vaccinated populations of the frequency of four outcomes. The outcomes used for comparison were the occurrence of respiratory illness, pneumonia, hospitalization, or mortality. Gross et al. found that combining results from the 20 observational studies showed that vaccination among elderly populations reduces their risk of respiratory illness by 56%, of pneumonia by 53%, of hospitalization by 48%, and of mortality by 68%. Most of the 20 studies considered were conducted among institutionalized elderly populations.²⁵

In a related study, Nichol et. al. estimated the cost-savings associated with influenza vaccinations among a group of elderly enrollees of a Minnesota HMO. Using the HMO's database, Nichols et. al. compared the cost of influenza-related hospitalizations between elderly enrollee populations either receiving or not receiving annual influenza vaccination. Costs of influenza-related hospitalizations included hospital costs for pneumonia and influenza, hospital costs for all acute and chronic respiratory conditions, and hospital costs for congestive heart failure. After adjusting for age, sex and medical history, Nichol et al. found the per patient difference in influenza related hospital costs for the vaccinated versus unvaccinated populations over three years. By taking this difference and subtracting the unit cost of an influenza vaccine, they estimated cost savings of \$117 per individual vaccinated over the three year period studied. Furthermore, they found that the costs savings attributed directly to reduced hospitalizations due to pneumonia and influenza were most apparent during the influenza A epidemic of the 1991-92 flu season.²⁶

3. Medicare's Influenza Vaccination Program

Medicare began reimbursing providers for influenza vaccination in May of 1993. The program went into full operation that fall with the implementation of an information campaign to promote vaccination, and a new simplified billing procedure. Even with these measures, the percentage Medicare beneficiaries taking advantage of the influenza vaccine benefit fell short of the Department of Health and Human Services' goals for all persons over 65 years of age. Health Care Financing Administration data from 1993 shows that only 34.6% of Medicare fee-for-service beneficiaries 65 or older received flu shots reimbursed by Medicare during the 1993 influenza season.²⁷ This number excludes the influenza vaccines HCFA paid for indirectly through its managed care program. A recent HCFA report indicates that the percentage of all Medicare beneficiaries age 65 or older receiving a HCFA-reimbursed flu shots increased to 41%

²⁵ Gross, PA., Hermogenes, AW., Sacks, HS., Lau, J., and Levandowski, RA. "The Efficacy of Influenza Vaccine in Elderly Persons," *Annals of Internal Medicine* 123:7 518.

²⁶ Nichol, KL, Margolis, KL, Wuorenma, J, and Von Sternberg, T. "The efficacy and cost effectiveness of vaccination against influenza among elderly persons living in the community," *New England Journal of Medicine* 9/22/94 778.

²⁷ Implementation of the Medicare Influenza Vaccination Benefit-United States, 1993. *Mortality and Morbidity Review Weekly* 43:42 771.

during 1995.²⁸ This percentage is supplemented by Medicare beneficiaries who receive flu shots through providers who do not seek HCFA reimbursement. The total percentage of Medicare beneficiaries over 65 receiving annual influenza vaccines have been estimated at 58% for the years 1993 to 1994.²⁹ State and local health department officials identified complex processes for billing and eligibility determination, as well inadequate information as early problems associated with HCFA's flu vaccine promotion activities.

4. *Estimating Cost Implications for Medicare*

In order to demonstrate the value of preventive benefits, we estimated the change in Medicare expenditures as a result of an increased influenza vaccination rates. Using data from the 1990 National Hospital Discharge Survey, we found the number of influenza-related hospitalizations for persons age 65 and over with Medicare listed as the primary payment source.³⁰ Assuming 41 percent of Medicare beneficiaries received flu shots in 1990 and using 50% as the approximate rate at which vaccination reduces the risk of influenza related hospitalizations, we estimated the rate of hospitalization among those receiving flu shots and those not receiving flu shots.³¹ We then estimated how many fewer hospitalizations would result from full participation in an influenza vaccination program compared to the current estimated vaccination rate (58 percent). The estimate of fewer hospitalizations was multiplied by the average cost of influenza related hospitalizations to estimate gross savings from a 90% vaccination rate.³² We estimated the net change in expenditures by subtracting the gross savings from the costs of administering additional vaccinations to 32 percent of the Medicare population (approximately \$5 in 1998).³³

Table 5 shows that expanding influenza shots to 90 percent of fee-for-service Medicare beneficiaries would increase Medicare expenditures less than \$200 million over the 1998 to 2002 period. We estimate that this additional expenditure would result in 23 percent fewer hospital admissions related to influenza (over 4,000 less beneficiaries). This method explicitly assumes a similar incidence of flu as occurred in 1990. If the incidence of flu were higher or lower, the estimated savings would correspondingly increase or decrease.³⁴ In addition, because we

²⁸ U.S. Department of Health and Human Services, Health Care Financing Administration. *1995 Influenza Immunizations Paid for by Medicare*, October 1996.

²⁹ Gross PA. et al.

³⁰ The estimated number of flu-related hospitalizations is from the National Hospital Discharge Survey for ICD-9 codes 4870, 4871, and 4878 listed as the primary diagnosis.

³¹ The estimated flu vaccination rate among the elderly for 1990 is from Heath, KA, Strikes, RA, Stevenson, J, and Williams, WW. (1994) "Influenza and pneumococcal vaccination among older adults: results from the 1991 National Health Interview Survey," *Program and abstracts of the CDC Epidemic Intelligence Service 43rd annual conference* Atlanta: US Department of Health and Human Services, Public Health Service, CDC, p. 33. The 50 percent reduction in hospitalizations is based on Gross et al. The estimated number of flu-related hospitalizations is from the National Hospital Discharge Survey for ICD-9 codes 4870, 4871, and 4878 listed as the primary diagnosis.

³² Hospital-related costs were based on payments for DRGs 79 and 80 plus physician payments for an initial hospital consultation and one follow-up consultation for each subsequent day up to the average length of stay.

³³ The cost of a flu shot was based on the average payment for CPT-4 code 90724.

³⁴ The rate of influenza infection appears to have been relatively stable during the early 1990s at approximately 20 percent.

estimated only the avoidance of hospital-related costs, the estimate should be considered conservative.

Table 5
Estimated Impact on Medicare Expenditures of Increasing
Influenza Vaccination Rates to 90 Percent
Among Medicare Beneficiaries, FY 1998-2002
(amounts in billions of nominal dollars)

1998	1999	2000	2001	2002	1998-2002
\$0.03	\$0.03	\$0.03	\$0.03	\$0.03	\$0.13

B. Hospice-Like Benefits

ACP proposes extending hospice-like benefits to terminally ill Medicare beneficiaries who chose not to enroll in a hospice or whose physician cannot certify he or she will die within six months, but could benefit from the palliative care, pain relief, family counseling, and other psychosocial services. Under the current Medicare hospice benefit, Medicare beneficiaries, whose physician has certified that they are expected to live six months or less, receive noncurative medical and support services (many of which would not be otherwise covered) in exchange for waiving all rights to Medicare payments for curative treatment.

While one study indicated that hospice care appears to be cost-effective, the reference group for comparison included only individuals who had died.³⁵ The most difficult part of estimating the potential change in Medicare expenditures related to instituting a hospice-like benefit is determining who might be eligible for such coverage and, among these individuals, who might elect these benefits. A Los Angeles-based program called “OPTIONS” provides care that emphasizes symptom management, pain control, and improving the quality of life for terminally ill enrollees. The criteria for eligibility includes: a terminal diagnosis; being in the end stages of a disease process; a medical condition that affects long term quality of life; and consultation between the primary care provider and the patient and his or her family concerning the diagnosis/prognosis. Estimating this eligibility criteria among Medicare beneficiaries would not be possible from claims data alone. It would likely require the detail available from medical records. Therefore, we were unable to develop an estimate of the potential change in Medicare spending. However, the recent addition of an ICD-9 code to indicate palliative care may allow analyses of the number of cases for which this type of care is delivered in hospitals.³⁶

VII. Combined Provisions

With the exception of increasing the percentage of Medicare beneficiaries receiving influenza vaccinations, the estimates show that the proposed changes could bring about savings over the

³⁵ Lewin-VHI, *An Analysis of the Cost Savings of the Medicare Hospice Benefit*, May, 1995

³⁶ Cassel, C. and Vladeck, B. “ICD-9 Code for Palliative or Terminal Care,” *New England Journal of Medicine* vol. 335, no. 16, pp. 1232-33.

next five years. In order to demonstrate the combined effect of the proposals we chose selected provisions from each of the five areas examined. We used the mid-range estimate for high cost case management, the four procedure-based bundled payment estimates (CABG, cataract, cardiac catheterization, and joint replacement), competitive bidding for medical supplies, risk adjusted HMO payments, and a higher flu vaccination rate. The interaction of some of features of the combined proposal cause individual provisions to increase or decrease. For example, the HMO payment changes are greater in combination with the fee-for-service changes than when they are calculated independent of the other changes. The combined estimate of savings shown in Table 6 is \$65 billion.

Table 6
Estimated Impact on Medicare Expenditures of Combined
Medicare Changes, FY 1998-2002
(amounts in billions of nominal dollars)

	1998	1999	2000	2001	2002
Mid-Range High Cost Case Management	-\$6.57	-\$6.90	-\$7.14	-\$7.64	-\$7.90
Bundled Procedure Payments	-\$1.58	-\$1.67	-\$1.76	-\$1.86	-\$1.96
Competitive Bidding for Supplies	-\$0.06	-\$0.07	-\$0.07	-\$0.07	-\$0.08
Risk Adjustment	-\$1.38	-\$1.77	-\$4.98	-\$5.06	-\$6.38
Increased Flu Vaccines	\$0.03	\$0.03	\$0.03	\$0.03	\$0.03
TOTAL	-\$9.56	-\$10.38	-\$13.92	-\$14.60	-\$16.29