Impact of Medicare SELECT on Cost and Utilization in 11 States

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In this article, the authors evaluate the cost and utilization effects of the SELECT implementations in 11 States. In particular they compare the before-and-after enrollment experiences of Medicare beneficiaries newly enrolled in SELECT plans with the experiences of those newly enrolled in traditional medigap plans. Using Medicare claims data for 1991 through 1994, the authors find that Medicare SELECT increased costs in five States, decreased costs in three States, and had no effect in three States. Cost increases were generally related to Part B utilization.

INTRODUCTION

Medicare SELECT is an individually purchased Medicare supplemental insurance policy that requires beneficiaries to use the insurer's provider network (to the extent that a network exists) to receive supplemental benefits. Medicare benefits are unaffected by whether the beneficiary uses the supplemental insurer's network (and receives supplemental benefits) or goes outside the network (and forfeits supplemental benefits). In creating SELECT Congress expected that it would direct beneficiaries to networks of efficient providers established by the supplemental insurers. This would in turn reduce fee-for-service (FFS) Medicare claims and enable SELECT insurers to offer beneficiaries lower premiums. In this article we present an evaluation of the impact of SELECT (during the January 1, 1992—December 31, 1994 demonstration period) on Medicare program costs and beneficiary utilization in 11 States. The impact of SELECT on supplemental insurance premiums and beneficiary access and satisfaction is addressed elsewhere (Garfinkel et al., 1996).

Medicare SELECT is one of several attempts to introduce managed care incentives into the FFS Medicare system. Although enrollment in Medicare health maintenance organizations (HMOs) has grown rapidly in recent years, it still represents only 13 percent of the Medicare population and may continue to represent a minority of the Medicare population for the foreseeable future. Thus, the growth of expenditures in the FFS Medicare system will continue to be a key factor in the financial health of the Medicare program. This evaluation not only bears on the extent to which SELECT has achieved its cost-containment objectives but also contributes to the growing body of information about the prospects for managed care techniques as a way to reduce the long-term growth in Medicare program expenditures.

BACKGROUND

The Omnibus Budget Reconciliation Act (OBRA) of 1990 made two important changes in the regulation of Medicare supplemental insurance. First, the law imposed mandatory standards for individually purchased medigap insurance. These standards, which took effect in 1992, limited

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medigap policies to 10 standard plans, labeled A through J, and guaranteed issue for Medicare beneficiaries within 6 months of eligibility for Medicare Part B. Second, OBRA 1990 allowed medigap insurers in 15 States to market network-based medigap products, called Medicare SELECT policies, on a 3-year demonstration basis.

SELECT products offer a managed care alternative to traditional medigap insurance. In most instances the SELECT benefits are the same as standard medigap plans.[1] Like an HMO, however, SELECT plans pay supplemental benefits only when contracting network providers are used. Because Medicare SELECT plans are supplemental policies, they have no effect on Medicare program payments. The FFS Medicare program makes its payments whether or not services are delivered in or out of the SELECT network. Thus, from the beneficiary's perspective, SELECT plans function like a preferred provider organization (PPO) in that, when out-of-network providers are used, most of the cost (i.e., the Medicare program's obligation) is still covered, but some of the cost (i.e., the supplemental insurer's obligation) is not.

The 15 States initially designated as SELECT States are Alabama, Arizona, California, Florida, Indiana, Kentucky, Michigan, Minnesota, Missouri, North Dakota, Ohio, Oregon, Texas, Washington, and Wisconsin. Oregon and Michigan, however, quickly withdrew because of a lack of insurer interest and, in mid-1993, Illinois and Massachusetts were selected as replacements.

Although the Health Care Financing Administration (HCFA) was responsible for supervising the SELECT program, actual implementation was the responsibility of the department of insurance in each State. Within the guidelines of the National Association of Insurance Commissioners' (NAIC) model legislation, each State implemented SELECT according to its own insurance regulations, procedures, and standards. Moreover, the State-specific implementations were substantially shaped by the insurers themselves, who were required to seek approval from the State departments of insurance before marketing a SELECT product. In our case studies of the State implementations, we found considerable variation across States in how SELECT was implemented (Lubalin et al., 1994).

The original 3-year demonstration, which had been scheduled to end December 31, 1994, was extended to June 30, 1995, by the Social Security Amendments of 1994 (Public Law 103-432). In late June 1995, Congress expanded the authority to offer Medicare SELECT plans to all States (Public Law 104-18). SELECT was extended until June 30, 1998, at which time it will become permanent, unless the Secretary of Health and Human Services finds that it (1) has not resulted in savings of premium costs to beneficiaries, compared with non-SELECT medigap policies; (2) has resulted in significant additional expenditures for the Medicare program; or (3) has resulted in diminished access and quality of care.

EVALUATION QUESTIONS

In authorizing this demonstration, legislators had anticipated that Medicare SELECT products would (1) reduce Medicare program expenditures by directing beneficiaries to efficient provider networks established by medigap insurers; (2) reduce beneficiary expenditures for medigap coverage, because insurers would pass the savings from provider efficiencies on to beneficiaries through lower premiums;

[1] Because they already had standardized medigap plans, three SELECT States (Massachusetts, Minnesota, and Wisconsin) were not required to implement the OBRA 1990 standardization. In these States SELECT insurers were permitted to market plans that corresponded to their existing State-specific medigap plans.

and (3) achieve these savings without compromising quality of care. Our evaluation was designed to answer these questions, in addition to providing basic descriptive information about how SELECT was implemented by States and insurers.

In this article we address the question of how SELECT has affected Medicare program expenditures and utilization. However, it is useful to first summarize the prevalence of SELECT offerings and enrollment and their impact on beneficiaries to provide the context to understand SELECT's impact on Medicare program costs.

SELECT Implementation

A summary of SELECT participation by States, insurers, and beneficiaries is provided in Table 1. One year after SELECT was approved for implementation nationwide, 20 States had approved SELECT policies. Massachusetts remains the only one among the 15 demonstration States without an approved policy. Since the nationwide expansion, six States that did not participate in the demonstration have approved SELECT policies: Iowa, Kansas, Michigan, Oklahoma, Rhode Island, and Wyoming.[2] There were 121 insurers approved to offer SELECT products in the 20 States, counting each insurer approved in each State as a separate observation. Of the 121 insurers, 79 were commercial companies, 16 were Blue Cross Blue Shield (BCBS) affiliates, and 25 were HMOs.

These plans had enrolled approximately 571,000 Medicare beneficiaries by July 1, 1996, about 2.7 percent of the 22.2 million Medicare beneficiaries in those States. The participating BCBS affiliates accounted for 74 percent of enrollment, with BCBS of Alabama, BCBS of Minnesota, and Blue Cross of California alone accounting for 58 percent. Throughout the original 3-year demonstration and the ensuing 18 months of SELECT activity, BCBS affiliates consistently accounted for three-fourths of all SELECT enrollment, despite the fact that a larger number of commercial insurance companies and HMOs were participating.

The most interesting aspect of SELECT implementation, and the one with the greatest implications for program impact, is the decision made by many insurers to either use hospital-only provider networks or include almost all physicians and hospitals in the State. Of the 121 companies offering SELECT in 1996, 86 (71 percent) had hospital-only networks. This includes 77 of the 79 (97 percent) commercial insurance companies offering SELECT plans. Insurers adopted this model because (1) they believed that the only significant savings to be found in the SELECT program would come from discounts or waivers of the Medicare Part A deductible by hospitals; (2) the transaction cost of establishing physician networks is high; and (3) HCFA has approved a "safe harbor" for discounts on the Part A deductible but not for Part B coinsurance (Lubalin et al., 1994).

Effects on Beneficiaries

We considered the effects of SELECT on Medicare beneficiaries in terms of the medigap premiums they face and their experiences with SELECT coverage. Because premiums vary according to the insurer's claims experience and actuarial judgment, benefit package (e.g., A-J), and ratesetting method (e.g., attained age, issue age, or community rating), it was important to make comparisons within company and plan type for those companies that offered the same plans as SELECT and standard medigap policies. We computed ratios of 1996 SELECT to standard medigap premiums for non-smok-

[2] Insurance departments and insurers reported that SELECT applications were under consideration in 15 additional States.

Table 1

Overview of Medicare SELECT Implementation Nationwide: July 1, 1996

State	Total Medicare Beneficiaries[1]	SELECT Plans Approved	SELECT Enrollment	Medicare SELECT Plan(s) Offered by Each Insurer[2] A	B	C	D	E	F	G	H	I	J	Other	Standard Plan(s) Offered by Each SELECT Insurer A	B	C	D	E	F	G	H	I	J	Other	Notes	Type of Premium
Total	21,222,115	SELECT Total	571,383	64	76	89	24	12	69	9	15	7	11	18	93	68	74	36	34	78	51	29	37	16	9	—	—
Demonstration States																											
Alabama	644,949	Blue Cross Blue Shield of Alabama	171,108	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	I
		Complete Health Senior Partners	4,000	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2	C
		Health Advantage Eldercare Plus	3,000	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2	C
		Health Insurance Corp. of Alabama	2,313	Y	Y	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	3,5	A
		Health Partners of Alabama Inc.	1,200	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	N	2	C
		Humana Insurance Company	7,344	Y	Y	Y	N	N	Y	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	Y	N	5	C
		*Physician's Mutual Insurance Company	0	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		Subtotal	188,965	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	5	A
Arizona	603,609	American Insurance Company of Texas	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	—	A
		Bankers Life & Casualty Company	3	N	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	2	I
		Blue Cross Blue Shield of Arizona	3,527	N	N	Y	N	N	N	N	Y	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	2	A
		First Health of Arizona	985	Y	N	Y	N	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	5	C
		Humana Insurance Company	457	Y	Y	Y	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	5	A
		National Financial Insurance Company	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	Y	N	5	A
		National Foundation Life Insurance Co.	113	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	C
		*Prudential/AARP	0	N	Y	Y	Y	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	2	C
		Samaritan Health Plans, A Division of Health Partners	248	Y	N	Y	N	Y	N	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
		Subtotal	5,333	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	A
California	3,652,677	Blue Cross of California/CaliforniaCare	95,712	Y	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	2	C
		Foundation Health, A California Health Plan	NA	Y	N	N	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	Y	N	2	NA
		*Kaiser	R	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	2	C
		National Health Plans Inc.[5]	579	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	N	2	NA
		Omni Health Plan[5]	R	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	N	N	N	N	—	A
		*Physician's Mutual Insurance Company	0	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	—	—
		Subtotal	96,291	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	5	I
Florida	2,630,099	Bankers Life & Casualty Company	667	N	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	—	—
		Blue Cross and Blue Shield of Florida, Inc.	18,597	N	Y	N	Y	Y	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	5	I
		*Continental Life Ins. Co. of Brentwood, TN	16	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	5	I
		First National Life Insurance Company	1,185	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	5	C
		Humana Health Ins. Co. of Florida	2,904	Y	Y	Y	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	5	I
		Mutual Protective Insurance Company	2,260	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	5	I
		National Financial Insurance Company	5	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	Y	N	N	5	I
		Pioneer Life Insurance Co. of Illinois	7,547	N	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	5	I
		Providian Life and Health Insurance Company	6,263	Y	Y	N	N	N	Y	N	N	N	N	N	Y	Y	N	N	N	Y	N	N	N	N	N	5	C & I
		*The Pyramid Life Insurance Company	39	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	N	Y	N	N	N	5	I
		Union Fidelity Life Insurance Company	1	N	Y	Y	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	—	—
		*United American Insurance Company	0	N	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	N	N	5	A
		Subtotal	9,478	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	5	A
Illinois	1,622,331	Bankers Life & Casualty Company	1,077	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	5	A
		BCBS of Illinois (formerly Health Care Service Corp.)	9,447	N	Y	N	Y	Y	Y	N	N	N	N	N	Y	Y	N	Y	Y	Y	Y	N	N	N	N	5	I
		Humana Insurance Company	57	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	Y	N	Y	N	N	5	A
		Mutual Protective Insurance Company	1	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	Y	N	Y	N	N	5	A
		Pioneer Life Insurance Co. of Illinois	66	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	5	I
		Providian Life and Health Insurance Company	16	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	N	N	N	Y	N	Y	N	N	N	5	A
		The Pyramid Life Insurance Company	7	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	—	—
		United American Insurance Company	0	N	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	N	Y							
		Subtotal	10,671	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N							

See notes at end of Table.

Table 1—Continued
Overview of Medicare SELECT Implementation Nationwide: July 1, 1996

State	Total Medicare Beneficiaries	SELECT Plans Approved	SELECT Enrollment	Medicare SELECT Plan(s) Offered by Each Insurer[2]											Standard Plan(s) Offered by Each SELECT Insurer											Notes	Type of Premium
				A	B	C	D	E	F	G	H	I	J	Other	A	B	C	D	E	F	G	H	I	J	Other		
Total	21,222,115	SELECT Total	571,383	64	76	69	24	12	69	9	15	7	11	18	93	66	74	36	34	78	51	29	37	16	9	—	—
Indiana	825,477	Anthem Blue Cross and Blue Shield	1,263	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	5	A
		Bankers Life & Casualty Company	711	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	5	A
		Humana Insurance Company	1,449	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	5	C
		*National Financial Insurance Company	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		*National Foundation Life Ins. Company	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		Pioneer Life Insurance Co. of Illinois	337	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	5	A
		The Pyramid Life Insurance Company	706	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	5	I
		Subtotal	4,466	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
Kentucky	569,463	Anthem BCBS (formerly Southeastern Group Inc.)	12	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	5	A
		Humana Health Plan, Inc.	17,461	Y	Y	Y	N	N	Y	N	Y	N	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	5	A
		Mutual Protective Insurance Company	0	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	5	C
		National Financial Insurance Company	31	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		National Foundation Life Insurance Co.	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		*Pioneer Life Insurance Co. of Illinois	109	N	Y	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	5	A
		*Prudential/AARP	0	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	5	I
		The Pyramid Life Insurance Company	6	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	—	—
		Subtotal	38,113	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	5	I
Massachusetts[6]	935,948	None	0	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	2,5	C
Minnesota[6]	632,346	Blue Cross and Blue Shield of Minnesota	67,034	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	N	N	N	N	5	A
		*First Plan of Minnesota	1,000	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	5	A
		Health Partners (formerly MedCenters Inc.)	800	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	5	A
		Medica Health Plans (Allina Health System)	6,116	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	Y	N	Y	N	N	5	A
		Subtotal	74,950	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	N	5	C
Missouri	835,358	American Insurance Company of Texas	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	5	I
		Bankers Life & Casualty Company	5,173	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	—	—
		Blue Cross Blue Shield of Kansas City	1,915	Y	N	Y	N	N	Y	N	N	N	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	—	—
		Humana Insurance Company	6,692	Y	Y	Y	N	N	Y	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	Y	4	C
		Mutual Protective Insurance Company	0	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	2,4	C
		National Financial Insurance Company	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	Y	2,4	C
		National Foundation Life Insurance Co.	134	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	2,4	C
		*Pioneer Life Insurance Company of Illinois	0	N	Y	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	—	—
		*Prudential/AARP	75	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	5	A
		Subtotal	13,969	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	3,5	A
North Dakota	103,237	Blue Cross Blue Shield of North Dakota	9,000	N	N	N	N	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	Y	Y	Y	Y	N	5	A
Ohio	1,671,350	*Anthem Blue Cross and Blue Shield	4,208	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	5	I
		Bankers Life & Casualty Company	3,133	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	N	N	N	5	A
		Humana Insurance Company	0	Y	Y	Y	N	N	Y	N	Y	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	5	A
		Mutual Protective Insurance Company	135	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	5	A
		National Foundation Life Insurance Co.	152	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	Y	N	N	5	A
		Pioneer Life Insurance Co. of Illinois	363	N	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	5	C
		*Providian Life and Health Insurance Company	0	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	N	N	N	Y	N	N	N	N	N	—	—
		*Prudential/AARP	507	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	1	A
		The Pyramid Life Insurance Company	7	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	Y	Y	N	N	5	A
		Seaboard Life Insurance Company (USA)	598	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y	N	N	N	N	N	1	A
		Subtotal	9,103	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	5	A

See notes at end of Table.

Table 1—Continued
Overview of Medicare SELECT Implementation Nationwide: July 1, 1996

State	Total Medicare Beneficiaries[1]	SELECT Plans Approved	SELECT Enrollment	Medicare SELECT Plan(s) Offered by Each Insurer[2] A	B	C	D	E	F	G	H	I	J	Other	Standard Plan(s) Offered by Each SELECT Insurer A	B	C	D	E	F	G	H	I	J	Other	Notes	Type of Premium
Total	21,222,115	SELECT Total	571,383	64	76	89	24	12	69	9	15	7	11	18	93	68	74	36	34	78	51	29	37	16	9	—	—
Texas	2,090,823	*Anthem Life Insurance Company of Indiana	0	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		Bankers Life & Casualty Company	1,625	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	3,5	A
		Continental Life Ins. Co. of Brentwood, TN	301	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	5	A
		Humana Insurance Company	4,107	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	5	C
		Mutual Protective Insurance Company	81	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	Y	N	N	N	N	5	A
		National Financial Insurance Company	516	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		National Foundation Life Insurance Co.	5,283	Y	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	Y	N	N	N	N	N	5	A
		New Era Life Insurance Company	0	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	5	I
		Pioneer Life Insurance Co. of Illinois	930	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	N	Y	N	N	5	A
		Providian Life and Health Insurance Company	10	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	Y	N	N	N	Y	Y	N	Y	N	N	5	A
		*Prudential/AARP	0	N	Y	Y	Y	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	5	C
		The Pyramid Life Insurance Company	450	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	5	I
		Sierra Health & Life Insurance Company	20,120	Y	Y	Y	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	3,5	A
		Subtotal	33,423	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
Washington	690,467	*First Choice Health Plan	19	Y	Y	Y	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	1,3,5	C
		Kitsap Physicians Service	2,045	Y	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	Y	N	N	N	N	N	N	1	A
		Pierce County Medical (Blue Shield)	946	Y	N	Y	N	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	N	Y	N	Y	N	1	C
		Subtotal	3,010	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
Wisconsin	763,338	*Atrium Health Plan (formerly HMO Midwest)	100	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	A
		Bankers Life & Casualty Company	1,080	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	4,5	A
		*Blue Cross Blue Shield United of Wisconsin	41	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	4,5	A
		*Dean Health Plan	10,632	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	C
		Family Health Plan Cooperative	3,708	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	2,4	C
		Greater La Crosse Health Plan 65 Plus	1,520	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	A
		Group Health Coop. of South Central WI	300	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	2,4	C
		*MercyCare Health Plan	70	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	A
		North Central Health Protection Plan 65 Plus	838	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	A
		Physicians Plus Insurance Corporation	913	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	A
		Security Health Plan of Wisconsin Inc.	4,715	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	2,4	A
		Unity Health Plans (Community Network)	850	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	C
		Valley Health Plan	1,575	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	2,4	C & A
		Wisconsin Phys. Service Ins. Co. (Qcare Senior Plan)	647	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N	N	Y	4	A
		Subtotal	26,989	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
Non-Demonstration States																											
Iowa	475,286	*Prudential/AARP	0	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	5	C
Kansas	384,492	*Blue Cross Blue Shield of Kansas	5,331	N	N	Y	N	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	5	C & A
Michigan	1,352,606	*Prudential/AARP	17	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	5	C
		*The Pyramid Life Insurance Company	3	N	N	Y	N	N	Y	N	N	N	N	N	Y	Y	Y	N	N	Y	Y	N	N	N	N	5	A
		Subtotal	20	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
Oklahoma	489,123	*Blue Cross/Blue Shield of Oklahoma	250	N	N	N	N	N	Y	N	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	—	I
		*Mutual Protective Insurance Company	1	Y	Y	Y	Y	N	Y	N	N	N	N	N	Y	N	Y	N	N	Y	Y	N	N	N	N	5	A
		Subtotal	251	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	—	—
Rhode Island	168,588	*Blue Cross Blue Shield of Rhode Island	12,000	N	Y	Y	N	N	N	N	N	N	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	1	C
Wyoming	60,548	*Prudential/AARP	0	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	5	C

* Newly approved plans (since November 1995).

[1] As of December 31, 1995.

[2] Plans A through J are standard plans developed by the National Association of Insurance Commissioners.

[3] Codes for comments are: 1 = plan is a service corporation; 2 = plan is a health maintenance organization (HMO); 3 = organization affiliated with Olympic Health Management Systems, Inc.; 4 = State has waiver from standardization, so plans do not conform to A-J; 5 = SELECT network does not include physicians.

[4] Codes for type of premium are: C = community rated; A = attained age; I = issue age; NA= not available.

[5] The Department of Corporations, which regulates HMOs in California, lists National Health Plans Inc. and Omni Health Plan as SELECT insurers; however, National describes its product as a Medicare risk plan and Omni disagrees that it sells SELECT policies

[6] Waiver State.

NOTE: Column totals indicate the number of Xs for each SELECT or standard plan A-J. R = refused to provide requested information.

SOURCE: Telephone inquiries, State departments of insurance, and insurers, July 1996.

ing women of ages 65 years and 75 years and found that SELECT premiums were less expensive on average than the premiums for the standard medigap versions for the same policies offered by the same companies. The differences ranged from 15-29 percent at age 65 and 11-29 percent at age 75, depending on type of plan. Such differences could be attributable to the use of efficient physicians by insurers who use selective physician networks but almost certainly derives substantially from the discounts or waivers of the Part A deductible by network hospitals. However, these differences could also reflect favorable selection in Medicare SELECT, an issue addressed later in our analysis of Medicare program costs.

It is important to note, however, that there are often policies available that have lower premiums than the standard policy offered by the SELECT insurer. Thus, new Medicare beneficiaries, who are guaranteed issue for their first 6 months of Part B eligibility, can often obtain a policy that is less expensive than the SELECT policy. Clearly SELECT is not producing the least expensive policies in the market, and price is not the sole factor in the choice of medigap policy.

From our survey of Medicare beneficiaries, we compared those who had purchased SELECT policies with those who had standard medigap policies. We found that persons of races other than white and persons in low socioeconomic groups were more likely to purchase a SELECT product than were white persons and wealthier, better educated beneficiaries. This is consistent with the finding that SELECT premiums are comparatively inexpensive for beneficiaries 65 years of age. We also found no difference in health status between the two groups, which suggests that selection bias is less likely as an explanation for cost differences.

Finally, we found no difference in satisfaction with medigap insurance between purchasers of SELECT and standard unrestricted products. If beneficiaries who purchase SELECT, presumably to obtain lower premiums, were less satisfied than the comparison group, then one might conclude that buying SELECT is a "bad" bargain. However, the evidence suggests that the two groups are equally satisfied and that, holding all else constant, SELECT is a reasonable choice for beneficiaries who are willing to accept some restriction in choice of provider to obtain a lower premium.

ANALYTIC APPROACH

In evaluating SELECT effects on Medicare program cost and utilization, we use a "four-way" quasi-experimental design, comparing the before-and-after enrollment experiences of Medicare beneficiaries newly enrolled in SELECT plans with the before-and-after enrollment experiences of a matched sample of Medicare beneficiaries newly enrolled in traditional post-OBRA medigap plans

The study population included beneficiaries who were enrolled in either SELECT or post-OBRA standard medigap plans in February 1994. Twenty-four of 26 SELECT insurers supplied the Medicare identification numbers of beneficiaries who had purchased their SELECT and standard medigap plans. In addition, several BCBS affiliates that did not offer SELECT plans and the Prudential/American Association of Retired Persons medigap plan submitted identification numbers of standard plan purchasers to expand the pool of potential comparison group members. All identification numbers that could be matched to the Medicare eligibility file were eligible for the study. We were able to match 81 percent of the SELECT identification

numbers in the 12 States with SELECT enrollment in February 1994.

All eligible SELECT beneficiaries were included in the analysis. The comparison group was constructed by selecting a stratified random sample of the eligible standard plan purchasers matched to the age, sex, and ZIP Code distribution of the eligible SELECT population.

We then evaluated the effects of SELECT on 14 different measures of cost and utilization. Although we report results for all measures, we focus on our most comprehensive cost measure, total allowable Medicare expense (including deductibles and copayments). Thus, the greatest attention is given to answering the principal policy question, namely, does SELECT reduce total Medicare costs?

We estimated the cost models as log-linear relationships, and we estimated the utilization models as linear relationships. We found that this approach gave the most robust estimates across different model types and different dependent variables. All models were estimated separately for each State.

Fixed-Effects Model

Preliminary analyses using a simple cross-section/time-series design indicated potential selection bias. Specification tests showed significant differences in the Medicare costs incurred prior to enrollment in the current medigap plan, even after controlling for observable characteristics (Heckman and Hotz, 1989). In an effort to mitigate selection bias, we used the fixed-effects procedure in estimating SELECT effects. Fixed-effects is the standard econometric procedure for avoiding or reducing selection bias. It controls completely for time-invariant differences among individuals.

In estimating the fixed-effects models, we estimated a unique intercept for each individual beneficiary. Although this procedure controls for all measured and unmeasured person-specific characteristics, it also means that all time-invariant variables (e.g., sex, race, location, and reason for entitlement) are excluded from the estimation and cannot be included as explicit control variables. Indeed, this is the major limitation of fixed-effects estimation—that one cannot ascertain the role or importance of time-invariant covariates. For this reason we also estimated cross-section/time-series models without using fixed effects. We nevertheless believe that the fixed-effects estimation provides the more robust and reliable estimates of SELECT effects. It provides the strongest control for self-selection or specification bias as an alternative explanation for observed cost differences.

The fixed-effects models include only the variables that vary over time. In particular, the fixed-effects models include three key variables: SELECT (indicating SELECT program effects), MEDIGAP (indicating traditional medigap effects), and QUARTER. SELECT is the treatment variable, with a range from zero to one. For SELECT enrollees, it is set equal to zero for quarters prior to SELECT enrollment. It is set equal to one for quarters after SELECT enrollment

For the quarter in which SELECT enrollment occurred, SELECT is defined proportionately (e.g., set equal to 0.50 if enrollment occurred midway through a quarter). For non-SELECT enrollees this SELECT variable is always zero. This variable is our indicator of the SELECT program effect.

To distinguish pre-enrollment quarters from post-enrollment quarters, we used another dummy variable designated MEDIGAP. For all beneficiaries this variable is set equal to zero for quarters prior to enrollment in a post-OBRA medigap product. It is set equal to one for quarters after such enrollment. For SELECT enrollees only, the

SELECT and MEDIGAP variables have the same values. Thus, the MEDIGAP variable controls for or distinguishes the effect of enrollment in any post-OBRA medigap product, traditional or SELECT, and the SELECT variable distinguishes the incremental or differential effect of enrollment in a SELECT product. Thus, for SELECT enrollees, the effects are additive.

We also included a variable, QUARTER, to account for time-trend effects. QUARTER takes a value ranging from 1 through 16, depending on which of the 16 quarters in our data set is represented by the observation. Finally, three dummy variables are used to control for seasonal variation in health care use, with winter being the omitted category.

Cross-Section/Time-Series Model

This model includes not only the variables included in the fixed-effects model but also a number of time-invariant beneficiary characteristics. A dummy variable (EVER) identifies those ever enrolled in a SELECT product. This variable distinguishes the SELECT group from the comparison group and controls for prior-use differences between the SELECT and non-SELECT beneficiaries. In essence, EVER distinguishes the experimental group from the comparison group, MEDIGAP distinguishes pre-enrollment quarters from post-enrollment quarters, and SELECT represents the interaction of the two. Of course we could not include EVER in the fixed-effects model because it does not vary over time.

A number of beneficiary demographic characteristics were also included as independent variables in the cross-section/time-series estimation to control explicitly for health status and other individual differences between the SELECT and comparison beneficiaries.[3] Finally, to control for geographic variation in provider availability and payment rates, we included dummy variables identifying county of beneficiary residence; and to control for insurer differences in risk selection, we included dummy variables distinguishing the various SELECT and non-SELECT insurers.

Whereas the cross-section/time-series model specification is reasonably comprehensive, it is nevertheless important to acknowledge that this basic cross-section/time-series model and all other models estimated were incompletely specified. In particular, we had no information on the beneficiaries' prior supplemental insurance status. We did not know whether a given beneficiary had another medigap product during the time interval prior to reported enrollment in a post-OBRA traditional or SELECT product. As a practical necessity, our analysis must assume that the traditional and SELECT enrollee populations had the same distribution of supplemental benefits prior to post-OBRA enrollment. To the extent that this assumption is incorrect, our estimates of the medigap and SELECT impacts could reflect bias.

If, for example, SELECT (because of price advantage or market positioning) were relatively more attractive to Medicare beneficiaries without a prior supplemental plan, our estimates of the SELECT effects could have a positive bias. Health services research has consistently shown that beneficiaries with supplemental insurance have higher Medicare costs than those without (Christenson, Long, and Rodgers, 1987;

[3] The beneficiary variables are as follows: six continuous variables (AGE65, AGE70, AGE75, AGE80, AGE85, and AGEGT85), specifying age in a piecewise linear fashion, a dummy variable (FEMALE) identifying those who are female, a dummy variable (BLACK) identifying those who are black, and a dummy variable (OTHER) identifying those who are of races other than black or white. To control for the beneficiary's Medicare eligibility status, which is associated with health status by definition: a dummy variable (DISABLED), identifying those who are disabled, a dummy variable (RENAL), identifying those with renal disease, a dummy variable (AGED_DIS), identifying those who are aged and disabled, and a dummy variable (AGED_REN), identifying those who are both aged and have renal disease.

Link, Long, and Settle, 1980; McCall et al., 1991; and Khandker and McCormack, 1996). Indeed, our own results provide additional, strong support for that proposition. If so, a cost-increasing result would be obtained if those enrolling in SELECT had been less likely to have a supplemental plan prior to post-OBRA enrollment.

Unfortunately, no comparative information was available on the prior insurance status of the SELECT and comparison beneficiaries. However, we believe that the potential for such selection bias is much diminished in those States with very large SELECT enrollment (e.g., Alabama, California, and Minnesota). Their SELECT populations are much more likely to be representative of the larger Medicare beneficiary universe in those States. Furthermore, inasmuch as our findings for these three States mirror the pattern of results for all States in which SELECT is evaluated, we do not believe that the differences seen are wholly or even substantially attributable to such selection bias.

Other Models

In addition to the fixed-effects and cross-section/time-series models, we estimated other models to check the robustness of our results. We estimated an expanded fixed-effects model that also included the time-invariant covariates (e.g., gender and race). We estimated a prior-use model in which the dependent variable in the last year of our data was modeled as a function of the baseline value of the dependent variable in the first year of our data, in addition to other factors. We also estimated a first-difference model wherein the dependent variable was constructed as the difference between experience in the first and last years of our data.

These models, with the possible exception of the first-difference model, yielded results that are broadly consistent with the fixed-effects model and indicate similar appraisal of the SELECT program. However, none of these models is as theoretically appealing or empirically robust as the fixed-effects model. The fixed-effects model reported herein clearly provides the best estimate of SELECT program effects. The fixed-effect results are more stable than the results obtained with other models; they permit inferences to the more inclusive and representative of the reference population; and they provide the strongest control for selection bias and specification bias as alternative explanations. Thus, we focus on those results.

DATA

Our analyses were limited to the 11 States with sufficient SELECT enrollment in February 1994. Illinois, Massachusetts, and Washington were excluded from analysis because they did not have SELECT enrollment at that time, and North Dakota was excluded because the sample size available in that State was too small to permit reliable estimation

For both the SELECT and comparison groups, we obtained all Medicare claims, Part A and Part B, for services provided during the 4-year interval, 1991 through 1994. The utilization and cost experience was then summarized by beneficiary for each of the 16 quarters in that interval. Thus, our data include a maximum of 16 observations for each beneficiary. Moreover, for each beneficiary, our data include only those quarters for which the beneficiary was alive, continuously eligible for Medicare (both Parts A and B), and not enrolled in an HMO.

The number of beneficiaries enrolled in SELECT ranged from 400-500 in Indiana

Table 2
SELECT and Non-SELECT Sample Sizes: Numbers of Beneficiaries and Average Number of Quarters, by State: February 1994

State	SELECT Sample		Non-SELECT Sample	
	Average Number of Beneficiaries	Average Number of Quarters	Number of Beneficiaries	Number of Quarters
Total	138,487	—	69,686	—
Alabama	30,793	11.64	4,367	13.08
Arizona	1,189	13.03	1,152	13.66
California	38,683	12.49	31,416	12.40
Florida	12,393	13.23	12,145	13.53
Indiana	523	12.21	450	13.41
Kentucky	13,402	12.20	4,905	12.71
Minnesota	25,533	12.01	3,410	13.94
Missouri	4,656	13.17	3,984	12.75
Ohio	425	12.50	499	11.96
Texas	8,551	13.59	5,663	13.73
Wisconsin	2,339	10.61	1,695	12.19

SOURCE: SELECT and non-SELECT insurer eligibility files, February 1994.

and Ohio to more than 25,000 in Alabama, California, and Minnesota (Table 2). The sample includes only beneficiaries newly enrolled in SELECT products. Rollovers from pre-OBRA network-based medigap products were excluded so that the pre-SELECT period did not represent enrollment in a similar network-based medigap product. In each State we sought to have an approximately equal number of non-SELECT comparison beneficiaries.[4] However, the number of non-SELECT beneficiaries in Alabama, Kentucky, and Minnesota is substantially less than the number of SELECT beneficiaries (Table 2, third column) because the sampling frame did not include a sufficient number of newly enrolled non-SELECT beneficiaries to match the newly enrolled SELECT universe. Such imbalances reduce the precision in estimating the SELECT effects but do not bias or otherwise invalidate the findings.The average number of quarterly observations per beneficiary ranged from 10.6 to 13.6 for the SELECT sample, and from 12.0 to 13.7 for the comparison group. There are several reasons for having fewer than 16 quarters of data. First, the enrollment in post-OBRA products is weighted toward those newly eligible for Medicare (i.e., those just reaching age 65), and naturally no claims data are available for times prior to first date of Medicare eligibility. Second, for Medicare beneficiaries previously enrolled in an HMO, the Medicare program collects no utilization and cost information for the interval of HMO enrollment. In several States (e.g., Wisconsin and Indiana), a substantial proportion of SELECT enrollees were formerly enrolled in an HMO. Third, a small number of beneficiaries died during the 16-quarter period.

RESULTS

Total Cost Per Beneficiary

Our results show that the effect of SELECT varies widely across States (Table 3). Significant, positive (cost-increasing) estimates are obtained for five States—

[4] We drew a stratified random sample that matched the age, sex, and geographic distribution of the SELECT population. This was achieved by stratifying by age, sex, and three-digit ZIP Code and drawing a sample equal to the SELECT count in each stratum. If the SELECT count exceeded the number of cases available in the comparison group stratum, then every stratum member was selected.

Table 3
Estimated SELECT Impacts on Medicare Program Costs, Using the Fixed-Effects Model, by State: 1991-94

State	Coefficient Estimates	Standard Error	Estimated Effect (in Percent)	95-Percent Confidence Level
Alabama	**0.152	0.023	16.4	11.2, 22.7
Arizona	**0.140	0.053	15.0	3.1, 27.0
California	**-0.086	0.011	-8.2	-10.2, -6.3
Florida	-0.029	0.016	-2.9	NS
Indiana	**0.378	0.091	45.9	19.9, 72.0
Kentucky	0.008	0.024	0.8	NS
Minnesota	0.009	0.037	0.9	NS
Missouri	**-0.109	0.030	-10.3	-15.6, -5.0
Ohio	*-0.209	0.090	-18.9	-33.2, -4.6
Texas	**0.076	0.023	7.9	3.0, 12.8
Wisconsin	**0.137	0.050	14.7	3.4, 25.9
Average	NA	—	5.6	2.3, 8.9

* Significant at 0.05 level.
** Significant at 0.01 level.

NOTES: NA = not applicable. NS = not significant. A positive sign indicates that SELECT increases Medicare costs; a negative sign indicates that SELECT decreases Medicare costs.

SOURCE: Analysis of Medicare Part A and Part B claims data, 1991-94.

Alabama, Arizona, Indiana, Texas, and Wisconsin; and significant, negative (cost-decreasing) estimates are obtained for three States—California, Missouri, and Ohio. The significant, positive effects range from a low of 7.9 percent in Texas to a high of 45.9 percent in Indiana; and the significant, negative effects range from -18.9 percent in Ohio to -8.2 percent in California.

The simple average of all 11 State-specific estimates is +5.6 percent. This estimated average effect is significant at the 0.01 level, and the 95-percent confidence interval ranges from +2.3 percent to +8.9 percent. Excluding Indiana and Ohio, the two States with the smallest sample sizes and most extreme values, the simple average of the remaining estimates is +3.8 percent. This estimate is also significantly greater than zero at the 0.01 level. Its 95-percent confidence interval ranges from +1.5 percent to +6.1 percent.

Weighted averages have not been developed, because we do not believe that it is appropriate to do so. Our State-specific sample sizes do not fairly reflect differences in SELECT market potential across States. The State-to-State differences in SELECT enrollment in our samples are substantially the result of differences in insurer marketing strategy and State insurance department regulatory policy rather than a reflection of the impact of SELECT managed care provisions. Moreover the SELECT implementations varied considerably across States (Lubalin et al., 1994). Because we view the 11 State implementations as 11 independent tests of the SELECT concept, the simple average is the more relevant summary statistic.

Any summary statistic that averages the results for States, including our simple arithmetic average, should nevertheless be used cautiously because the effects vary so much across States. In particular, a simple average of program effects should not be construed as an estimate of the national effect of the SELECT program. The SELECT States were not constructed as a representative sample of States or Medicare beneficiaries, and we

have no way of anticipating how other States would implement SELECT.

Medigap Estimate

We included a medigap program variable to control for supplemental insurance effects other than SELECT. The coefficient of the MEDIGAP variable indicates the effect of enrollment in a post-OBRA traditional supplement (Table 4). We obtain positive (cost-increasing) estimates for all 11 States, and all but two are significant. The estimates range from +7.4 percent to +29.6 percent, and the average is +19.0 percent. This average is significant at the 0.01 level, and the 95-percent confidence interval ranges from 15.8 percent to 22.7 percent.

Our results for the MEDIGAP variable reconfirm and support findings from other studies that have consistently found supplemental insurance to be associated with increased Medicare utilization and costs. We included the MEDIGAP variable to control for this effect. Clearly, if we had not done so, our estimates of the SELECT effects would have been biased upward substantially. The estimates for the SELECT impacts are incremental or additive to the MEDIGAP impacts.

Full Model Results—An Illustrative Example

For illustrative purposes we report full results for California, for both the fixed-effects and cross-section/time-series models (Table 5). Both models indicate that the Medicare costs vary significantly with the QUARTER time-trend variable. Also both indicate that costs are significantly higher in the spring quarter (relative to winter.) The fixed-effects model additionally finds that the costs are significantly lower in the fall.

The cross-section/time-series model finds that women have higher costs. This model also indicates that Medicare costs decline with age until age 65 and then increase monotonically until age 85. We additionally find that costs are significantly lower for persons whose race is neither black nor white. Although we find, as expected, that Medicare costs are sub-

Table 4
Estimated Medigap Impacts on Medicare Program Costs, Using the Fixed-Effects Model, by State: 1991-94

State	Coefficient Estimates	Standard Error	Estimated Effect (in Percent)	95-Percent Confidence Level
Alabama	**0.179	0.024	19.6	14.0, 25.2
Arizona	*0.127	0.055	13.5	1.3, 25.8
California	**0.225	0.011	25.2	22.5, 27.9
Florida	**0.220	0.016	24.6	20.7, 28.5
Indiana	0.080	0.092	8.3	NS
Kentucky	**0.185	0.025	20.3	14.4, 26.2
Minnesota	0.071	0.037	7.4	NS
Missouri	**0.195	0.031	21.5	14.2, 28.9
Ohio	*0.260	0.092	29.6	6.3, 53.1
Texas	**0.148	0.025	15.9	10.3, 21.6
Wisconsin	**0.231	0.046	26.0	14.6, 37.3
Average	NA	—	19.0	15.8, 22.7

* Significant at 0.05 level.
** Significant at 0.01 level.
NOTES: NA = not applicable. NS = not significant. A positive sign indicates that medigap increases Medicare costs.
SOURCE: Analysis of Medicare Part A and Part B claims data, 1991-94.

Table 5

Cross-Section/Time-Series and Fixed-Effects Full Model Results for California: 1991-94

Variable	Cross-Section/ Time-Series	Standard Error	Fixed-Effects	Standard Error
Intercept	**4.999	0.142	—	—
MEDIGAP	**0.267	0.012	**0.224	0.011
SELECT	**-0.100	0.012	**-0.086	0.011
EVER	**0.613	0.013	—	—
QUARTER	**0.028	0.001	**0.049	0.001
SPRING	**0.048	0.008	**0.044	0.007
SUMMER	0.012	0.008	0.007	0.007
FALL	-0.011	0.008	*-0.014	0.007
FEMALE	**0.130	0.006	—	—
BLACK	-0.032	0.026	—	—
OTHER	**-0.495	—	—	—
DISABLED	**1.214	0.030	—	—
RENAL	**4.272	0.077	—	—
AGED_DIS	**-0.308	0.032	—	—
AGED_REN	**-0.827	0.092	—	—
AGED65	**-0.021	0.002	—	—
AGED70	**0.092	0.002	—	—
AGED75	**0.067	0.003	—	—
AGED80	**0.062	0.004	—	—
AGED85	**0.025	0.005	—	—
AGEDGT85	0.000	0.004	—	—
County Variables	NR	—	—	—
Insurer Variables	NR	—	—	—
Adjusted R^2	0.053	—	0.428	—
N	—	—	872,880	872,880

* Significant at the 0.05 level.

** Significant at the 0.01 evel.

NOTE: NR = not reported.

SOURCE: Analysis of Medicare Part A and Part B claims data, 1991-94.

stantially higher for the disabled and those with renal disease, we also find that such beneficiaries are relatively less expensive when also entitled by reason of age.

Other Cost and Utilization Measures

The previous discussion focuses on results obtained with our most comprehensive cost measure, which is total allowable Medicare cost. However, we also investigated the effects of SELECT on 13 additional dependent variables measuring less comprehensive cost and utilization outcomes (Tables 6, 7, and 8). These component results help to validate and explain the more inclusive cost results

Table 6 reports the SELECT coefficient estimates for various Part B cost measures; Table 7 reports the estimates for total Medicare costs by setting; and Table 8 reports the estimates for selected utilization measures. These are the actual coefficients estimated from the model, not estimates of the percentage effect.[5] Table 9 provides supplemental information on hospital admissions. We now consider the pattern of results for each study State.

Alabama

Consistent with our estimate of a significant, positive (cost-increasing) effect on total Medicare costs, we obtain significant, cost-increasing estimates on SELECT for all seven component cost measures (primary care physician [PCP],

[5] Remember that the cost models were estimated as log-linear relationships, and the utilization models were estimated as linear relationships. Thus, the SELECT coefficient estimates obtained in the cost models indicate the effect on the logarithm of costs, and the estimates obtained in the utilization models indicate the effect on the utilization measure itself (e.g., number of visits).

specialty physician, ancillary services, total Part B, physician office, outpatient department, and inpatient hospital) included in Tables 6 and 7. Moreover, our results indicate that SELECT is associated with both increased ambulatory costs and increased inpatient costs. In Table 8, which reports the SELECT effect on utilization measures, we find only that SELECT is associated with a greater office visit intensity. The SELECT variable is not significant in any of the three inpatient utilization models. This prompts us to ask, "How can SELECT increase inpatient costs without also increasing inpatient use?" Table 9 suggests an answer.

For the SELECT and non-SELECT hospital admissions in each State, Table 9 shows (1) the average diagnosis-related group (DRG) case-mix weight, (2) the percentage admitted to a teaching hospital, and (3) the percentage in a disproportionate-share hospital. For Alabama we observe no difference in the average case-mix weights, and we find that a somewhat lesser percentage of SELECT patients are admitted to disproportionate-share hospitals. However, we also find that a substantially greater percentage of SELECT patients are admitted to teaching hospitals—43 percent of SELECT patients compared with 33 percent of non-SELECT patients. Inasmuch as Medicare pays teaching hospitals additionally for direct and indirect medical education costs, otherwise similar patients (e.g., ones with the same DRG case weight) admitted to a teaching hospital are more costly.

Arizona

We already reported that SELECT increased Medicare costs in Arizona. The results in Table 6 suggest that specialist and associated ancillary service costs are increased. Although no significant cost effects are seen in Table 7, significant, utilization-increasing coefficient estimates are obtained for all three ambulatory utilization measures in Table 8.

In Table 9 we see that Arizona SELECT patients are both less likely to be admitted to a teaching hospital (20 percent compared with 42 percent) and less likely to be admitted to a disproportionate-share hospital (17 percent compared with 46 percent). Thus, SELECT patients are

Table 6
Coefficient Estimates for SELECT Effects on Medicare Part B Costs, by State: 1991-94

State	Primary Care Physician	Specialty Physician	Ancillary Services	Total Part B
Alabama	**0.117	**0.113	**0.133	**0.155
Arizona	NS	**0.188	*0.114	**0.137
California	**-0.025	**-0.082	**-0.032	**-0.081
Florida	**0.039	NS	**-0.044	NS
Indiana	NS	**0.350	**0.279	**0.316
Kentucky	NS	NS	**0.056	NS
Minnesota	NS	NS	NS	NS
Missouri	**-0.066	**-0.085	*-0.054	**-0.097
Ohio	*-0.142	NS	**-0.233	*-0.172
Texas	**0.110	NS	NS	*0.054
Wisconsin	**0.234	**0.127	NS	**0.153

* Significant at the 0.05 level.

** Significant at the 0.01 evel.

NOTES: NS = not significant. A positive coefficient indicates that SELECT increases costs; a negative coefficient indicates that SELECT decreases costs.

SOURCE: Analysis of Medicare Part A and Part B claims data, 1991-94.

Table 7
Coefficient Estimates for SELECT Effects on Medicare Costs, by Setting and State: 1991-94

State	Physician Office	Outpatient Department	Inpatient Hospital
Alabama	**0.108	**0.074	**0.070
Arizona	NS	NS	NS
California	**-0.038	**-0.054	NS
Florida	NS	**-0.063	NS
Indiana	*0.151	**0.374	**0.299
Kentucky	NS	NS	NS
Minnesota	NS	NS	NS
Missouri	NS	**-0.104	NS
Ohio	NS	NS	NS
Texas	**0.050	**0.089	**0.078
Wisconsin	**0.238	NS	NS

* Significant at the 0.05 level.

** Significant at the 0.01 evel.

NOTES: NS = not significant. A positive coefficient indicates that SELECT increases costs; a negative coefficient indicates that SELECT decreases costs.

SOURCE: Analysis of Medicare Part A and Part B claims data, 1991-94.

being admitted to less costly hospitals. We also see from Table 9 that the SELECT patients have a somewhat higher case-mix index, 1.63 compared with 1.45. This could suggest that Arizona SELECT plans have enrolled a less favorable risk (i.e., patients requiring more costly, higher intensity care). The fixed-effects procedure controls for such differences in estimating SELECT effects to the extent that the risk-profile differences existed prior to SELECT enrollment.

California

Our results indicate that Medicare is saving money on SELECT in California. The supplemental results in Tables 6 and 7 suggest that the cost savings are coming entirely from ambulatory care. Both physician office and hospital outpatient department (OPD) costs are reduced, and the costs are reduced for PCPs, specialists, and ancillary services. The OPD utilization measure (Table 8) also elicits a significant, negative coefficient. Finally, as seen in Table 9, the characteristics of SELECT and non-SELECT hospital admissions in California are similar.

Florida

Although a negative coefficient was obtained, SELECT is not estimated to significantly reduce total Medicare costs in Florida. Nevertheless, as in California, it appears that any Florida cost savings are coming from ambulatory care. Our results indicate that physician visit rates are significantly reduced (Table 8), and that OPD and ancillary costs are significantly lower (Tables 6 and 7). Although we also obtain a negative estimate for the impact on physician office costs, this estimate is not significant. On the other hand, our results indicate that PCP costs are increased. No effect on inpatient costs is shown.

A modestly lower percentage of SELECT patients in Florida are admitted to teaching hospitals and a modestly higher percentage are admitted to disproportionate-share hospitals (Table 9). The average case-mix weights are virtually identical for the two groups.

Indiana

Although the sample size for Indiana is small compared with 9 of the other 10 States, we nevertheless estimate that SELECT has a significant and sizable cost-

increasing effect in this State. With the exception of PCP costs, we obtain significant, positive coefficients for all cost measures included in Tables 6 and 7.

In Indiana 15 percent of the SELECT enrollees had been disenrolled from an HMO, compared with only 1.6 percent of non-SELECT enrollees. If the HMO disenrollees were not only sicker than average but also getting sicker at a disproportionate rate, our estimation would attribute a positive cost impact to SELECT. Comparatively little is known, however, about the health status or health-status progression of HMO disenrollees. In other SELECT States, except Wisconsin, we do not observe similar imbalance in the distribution of HMO disenrollees across SELECT and non-SELECT groups.

In Wisconsin, however, the situation was qualitatively different. A staff-model HMO converted its entire Medicare risk program to SELECT. Thus selection bias should be a less important factor in that State.

Kentucky and Minnesota

In both Kentucky and Minnesota, we detected no significant effects on overall Medicare costs. Those results are generally mirrored by other findings reported in Tables 6, 7, 8, and 9. In Kentucky we find that, although ancillary costs are increased, utilization is shifted toward more cost-effective settings. The OPD visit rate is reduced, but the office visit rate and the ambulatory surgery rate are increased. SELECT patients in Kentucky are much less likely to use a disproportionate-share hospital—25 percent of SELECT admissions compared with 53 percent of non-SELECT admissions. SELECT patients are also less likely to use a teaching hospital.

For Minnesota none of the cost measures in Tables 6 and 7 elicits a significant coefficient. We find only that inpatient days are significantly increased. Moreover, SELECT patients are somewhat more likely to use disproportionate-share hospitals (Table 9).

Missouri

SELECT is estimated to reduce overall Medicare costs in Missouri. Our results in Table 6 indicate a consistent pattern of Part B cost reductions associated with SELECT. Tables 7 and 8, however, suggest that the cost savings are coming largely from the hospital outpatient department. This finding is not surprising, given that all three SELECT insurers in Missouri use hospital-only networks, which would only suggest a potential change in hospital use and cost. No impact on inpatient costs is measured, despite a somewhat greater use of teaching hospitals (54 percent of SELECT admissions compared with 43 percent of non-SELECT admissions).

Ohio

We estimate that overall Medicare costs are reduced for SELECT enrollees in Ohio. Our component cost estimates suggest that the savings are achieved on primary care and ancillary services (Table 6). Although a negative coefficient was also obtained for physician office costs (Table 7), the estimate is not quite significant.

We find that inpatient days are significantly reduced, which should imply reduced inpatient costs. However, no significant effect on inpatient costs is indicated (Table 7). Table 9 shows that the SELECT patients are both somewhat less likely to use teaching hospitals and substantially more likely to use disproportionate-share hospitals. Evidently the inpatient utilization reductions are offset by higher reimbursement rates. Although it should not affect the estimation, we additionally

Table 8

Coefficient Estimates for SELECT Effects on Medicare Costs, Using Selected Utilization Measures, by State: 1991-94

State	Office Visits	Outpatient Department Visits	Ambulatory Surgeries	Inpatient Admissions	Inpatient Days	Inpatient Surgeries
Alabama	**0.080	NS	NS	NS	NS	NS
Arizona	**0.115 *	*0.053	**0.029	NS	NS	NS
California	NS	**-0.019	NS	NS	NS	**0.0087
Florida	NS	**-0.033	NS	NS	NS	NS
Indiana	NS	**0.085	NS	NS	NS	NS
Kentucky	*0.032	**-0.020	*0.068	NS	NS	NS
Minnesota	NS	NS	NS	NS	*0.046	NS
Missouri	NS	**-0.056	NS	NS	NS	NS
Ohio	NS	NS	NS	NS	**-0.233	NS
Texas	NS	NS	*-0.031	*0.003	*0.045	NS
Wisconsin	NS	NS	NS	NS	NS	NS

* Significant at 0.05 level.

** Significant at 0.01 level.

NOTES: NS = not significant. A positive coefficient indicates that SELECT increases utilization; a negative coefficient indicates that SELECT decreases utilization.

SOURCE: Analysis of Medicare Part A and Part B claims data, 1991-94.

note that the average case-mix weight for SELECT admissions in Ohio is slightly higher than that for non-SELECT admissions.

Texas

As found in the aggregate, the Texas results for component measures provide fairly consistent evidence that SELECT has increased Medicare costs. We obtain significant, positive estimates for all cost measures in Table 7. Moreover, the utilization results indicate that inpatient admissions and inpatient days are significantly increased. Only the ambulatory surgery rate is significantly lower (Table 8), perhaps signaling a shift to inpatient surgery. Inpatient costs are significantly higher despite the fact that SELECT patients are substantially less likely to be admitted to a teaching hospital (19 percent of SELECT admissions compared with 30 percent of non-SELECT admissions).

Wisconsin

In Wisconsin SELECT was estimated to increase aggregate Medicare costs. In Tables 6 and 7, we find evidence for cost-increasing effects only in the physician office setting. No effects on OPD or inpatient costs are indicated. Moreover PCP and specialty physician costs are both increased, as are total Part B costs. However, we do not find in Table 8 that the office visit rate is significantly increased. Wisconsin's SELECT patients are less likely to use teaching hospitals, but there is no difference in the use of disproportionate-share hospitals or the average case-mix weights.

On balance we believe that these supplemental analyses, using other cost and utilization measures, give results that are broadly consistent with our overall cost findings and significantly validate those results. We also suggest, based on the supplemental analyses, that the cost factors are different in different States. There seems not to be any simple explanation for either increased or reduced costs under SELECT. Like SELECT itself, the dynamic seems to vary by State.

DISCUSSION

Our analysis gives undeniably mixed results, with the estimated effects varying substantially by State. Five States show cost

Table 9

Hospital and Case-mix Characteristics for SELECT and Non-SELECT Admissions, by State: 1993

State	Percentage in Teaching Hospital[1]		Percentage in Disproportionate-Share Hospital[1]		DRG Case-mix Weight	
	SELECT	Non-SELECT	SELECT	Non-SELECT	SELECT	Non-SELECT
Alabama	42.9	32.5	59.6	66.5	1.45	1.45
Arizona	20.4	41.8	17.0	46.3	1.63	1.45
California	29.6	30.4	58.3	58.6	1.60	1.59
Florida	29.0	32.0	43.6	41.6	1.57	1.54
Indiana	15.5	19.4	80.4	88.2	1.45	1.66
Kentucky	43.0	48.8	24.8	52.9	1.48	1.47
Minnesota	44.0	45.1	18.5	13.4	1.48	1.46
Missouri	53.7	43.2	8.0	14.6	1.50	1.47
Ohio	64.1	72.6	68.9	38.4	1.50	1.42
Texas	19.4	29.8	59.9	53.8	1.50	1.43
Wisconsin	66.1	76.3	26.0	27.6	1.57	1.56

[1]Based on prospective payment system impact file (1993).

NOTE: DRG is diagnosis-related group.

SOURCE: Analysis of Medicare Part A claims data, 1993.

increases; three States show cost decreases; and three States show no effect. Moreover we see no obvious patterns in the SELECT implementations that would explain the variation in findings across States. California, Minnesota, and Wisconsin are all reasonably mature managed care States. One of these States (California) shows a cost decrease, one State (Wisconsin) shows a cost increase, and one State (Minnesota) shows no effect. All SELECT insurers in Indiana, Kentucky, Missouri, Ohio, and Texas use hospital-only provider networks. Two of these States (Indiana and Texas) show cost increases; two (Missouri and Ohio) show cost decreases; and one (Kentucky) shows no effect. SELECT products were based on pre-OBRA network products in Alabama, California, Minnesota, and Wisconsin. Two of these States (Alabama and Wisconsin) show cost increases, one (California) shows a cost decrease, and one (Minnesota) shows no effect.

Although significant inpatient effects were indicated in three States (Alabama, Indiana, and Texas), we find that the cost effects more consistently reflect differences in ambulatory care costs. The estimated effects on physician office costs are significant in 5 of the 11 study States; and the estimated effects on OPD costs are significant in 6 States.

In general, we believe that our fixed-effects results reflect actual SELECT program effects and cannot be easily attributed to either selection or specification biases. We do not, however, preclude the prospect that biases of one kind or another have skewed our estimates in one or more States. In particular we are concerned that we did not know the medigap insurance status of beneficiaries prior to purchase of their current policy. We are also concerned that the estimates for Indiana do not reflect true SELECT program effects because the effect is so large and the rate of transfer from Medicare HMOs is so much higher among SELECT beneficiaries than among comparison group members. On the other hand, we think it unlikely that analytic biases could explain the overall pattern of results. Indeed the mixed nature of our findings tends to make the estimates all the more credible, because it is difficult to posit any other explanation.

The original premise of SELECT had been that it would reduce aggregate health care costs because SELECT insurers would have an incentive to establish cost-effective provider networks and then support the networks in improving health system efficiency. The case study found that, as implemented by most insurers, SELECT is a comparatively weak form of managed care (Lubalin et al., 1994). Many SELECT insurers do not include physicians in their provider networks, choosing instead to recruit hospitals that discount or waive the Part A deductible and to cover the Part B deductible and coinsurance for any physician that the beneficiary decides to use. Most insurers that use physician networks organize them as preferred provider networks without gatekeepers, again, a relatively weak form of managed care. Thus, on the basis of the case study, we had anticipated finding little, if any, effect of SELECT on utilization or costs.

How then does one account for the finding that the SELECT plans in several States have apparently increased health care costs? What are the potential mechanisms for affecting such cost increases? We offer three potential explanations.

Like some PPOs, some SELECT plans may have contracted with providers on a discounted-fee basis and not given sufficient attention to managing the overall efficiency of health care services. In some PPOs the providers simply recouped their discounts by providing or billing more services. In other instances the PPOs had, in contracting on a percentage discount basis, unwittingly selected the more costly providers (i.e., the ones with greater margins and thus greater flexibility to accept a discount). Whatever the mechanism, employers found that the PPOs were actually costing them more, much as we are finding with regard to the SELECT experience in several States.

The possibility that SELECT insurers unwittingly chose more expensive providers may explain why SELECT influenced physician costs in Indiana, Missouri, Ohio, and Texas, even though none of the SELECT networks in those States include physicians. The physicians associated with the SELECT network hospitals may be systematically more or less expensive than other physicians used by the comparison population. We encountered no evidence that the ambulatory utilization patterns of physicians affiliated with network hospitals were considered by insurers when they developed hospital-only networks. However, such differences could explain the impact of hospital-only SELECT plans on physician costs, if SELECT beneficiaries were more likely to use physicians affiliated with hospitals in their SELECT network. If this pattern occurred by chance rather than by design, we would expect to see a cost-increasing impact in some cases (e.g., Indiana and Texas) and a cost-decreasing impact in others (e.g., Missouri and Ohio), as we have found.

Finally, in Wisconsin, a predominantly rural State, the increased costs might arise as a result of SELECT's role in improving health care access. In many rural and other underserved areas, Medicare risk-contracting HMOs have found that they are unwilling or unable to provide Medicare services within the adjusted average per capita cost experience-based capitation. They argue that access barriers have impeded health care use by the FFS population and left traditional Medicare beneficiaries with untreated or inadequately treated problems. They further argue that beneficiaries who join a multispecialty HMO receive more intensive and expensive treatment than they otherwise would have received from community providers under FFS Medicare. Consequently, the costs of care provided to SELECT benefi-

ciaries by HMO physicians are higher than the costs for comparison beneficiaries served by non-HMO community physicians. If, as the HMOs contend, this pattern reflects poor access among rural Medicare beneficiaries not served by HMOs, the higher costs may be justifiable. On the other hand, if the difference arises as a result of multispecialty physicians delivering unnecessarily intensive care, the higher costs are not justified. In Wisconsin more than one-half of the SELECT beneficiaries came from three staff-type HMOs that had terminated their risk arrangements with Medicare because they perceived that they could not afford to provide care on a community-rated basis. This is consistent with a hypothesis that the SELECT beneficiaries served by these HMOs receive more intensive treatment than comparison beneficiaries living in the same areas, although it does not address the question of whether the greater intensity is desirable.

A fourth possible explanation, namely, the hypothesis that SELECT products increase costs in some States by increasing use of high-cost teaching and disproportionate-share hospitals, is not consistently supported. Higher inpatient hospital costs were associated with higher total costs in only three of the five cost-increasing States (Alabama, Indiana, and Texas). Only in Alabama were higher inpatient hospital costs associated with greater use of teaching and disproportionate-share hospitals. In Indiana and Texas, higher hospital costs were associated with lesser use of teaching and disproportionate-share hospitals.

Much as Mathematica found in evaluating the early Medicare risk contracts (Brown et al., 1993), we find evidence that the early implementations of SELECT (in some instances) have actually increased Medicare program costs. It is possible that as SELECT matures, the successful efforts of some plans may be emulated by others, and SELECT may contribute to a reduction in Medicare program costs. The SELECT model first anticipated by Congress, in which insurers select efficient networks of physicians and hospitals, may offer the best opportunity for program savings. However, on a demonstration basis, SELECT has not consistently resulted in savings. Furthermore, most of the insurers recently entering the SELECT market have adopted the hospital-only network model (Han et al., 1996), which offers less potential for savings.

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REFERENCES

Brown, R.S., Clement, D.G., Hill, J.W., et al.: Do Health Maintenance Organizations Work for Medicare? *Health Care Financing Review* 15(1):7-24, Fall 1993.

Christenson, S., Long, S.H., and Rodgers, J.: Acute Health Care Costs for the Aged Medicare Population: Overview and Policy Options. *The Milbank Quarterly* 65(3):397-425, 1987.

Garfinkel, S., Lee, A.J., Khandker, et al.: *Evaluation of the Medicare SELECT Amendments:* Final Evaluation Report. Prepared for the Health Care Financing Administration (HCFA 500-93-0001). Research Triangle, NC: Research Triangle Institute, 1996.

Han, J.Y., Garfinkel, S.A., Harris, K.H., and Green, R.L.: *Evaluation of the Medicare SELECT Amendments: Medicare SELECT Status Report.* Prepared for the Health Care Financing Administration (HCFA 500-93-0001). Research Triangle, NC. Research Triangle Institute, 1996.

Heckman, J.J., and Hotz, V.J.: Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training. *Journal of the American Statistical Association* 84(408):862-880, 1989.

Khandker, R.K., and McCormack, L.A.: *Enrollment and Utilization Across Medicare Supplemental Plans.* Prepared for the Health Care Financing Administration (HCFA 17-C-90328/1-01). Waltham, MA: Health Economics Research, Inc., 1996.

Link, C.R., Long, S.H., and Settle, R.F.: Who Bears the Burden of Medicare Cost Sharing? *Inquiry* 25-31, 1980.

Lubalin, J., Garfinkel, S.A., Lee, A.J., et al.: *Evaluation of the Medicare SELECT Amendments: Case Study Report.* Prepared for the Health Care Financing Administration (HCFA 500-93-0001). Research Triangle, NC: Research Triangle Institute, 1994.

McCall, N.T., Rice, T., Boismier, J., and West, R.: Private Health Insurance and Medical Care Utilization: Evidence from the Medicare Population. *Inquiry* 28(3):276-287, 1991.

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