An Analysis of Medicare Administrative Costs

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Since Medicare is an established form of national health insurance for the aged, an analysis of the program's administrative cost experience should yield valuable insights for discussing administrative aspects of national health insurance. This article points out the pitfalls of blindly using the commonly accepted administrative costs-to-premiums ratios in comparing the administrative efficiency of differing health insurers.

On a ratio basis and on a per enrollee basis Medicare's HI has proven to be less expensive to administer than SMI, but SMI administrative costs are lower on a per claim basis. Medicare business accounts for a large proportion of the health insurance business of the program intermediaries and carriers, but no statistically significant relationship could be found between the administrative costs in their regular business and in their Medicare business.

There is a direct relationship between the proportion of extended-care facility bills handled and intermediary administrative costs. Because SMI claims are more amenable to data-processing handling, the level of individual carrier administrative costs reflects the stage of development of their electronic data-processing systems.

ALL HEALTH INSURANCE expenditures, public and private, totaled $35.2 billion or 3 percent of gross national product in 1972—an indication of the magnitude of the health insurance third-party reimbursement sector. At the same time, it cost $5.1 billion to administer these health insurance programs. Though the Medicare program accounted for almost 30 percent of all health insurance benefits paid, its administrative expenses only amounted to 8.5 percent of total health insurance administrative costs.[1]

Medicare is a large public program and large absolute sums are spent on the administration of the program. Furthermore, Medicare has been an operating program for 8 years, represents a relatively unique blend—on so large a scale—of public financing and largely private administration, and is the source of an accumulation of administrative experience.

As of February 1974, there were 17 national health insurance bills before the Congress. Fifteen of those bills envision an administrative role for the private health insurance sector and some of the bills embody a mixture of public financing and private administration verging on the Medicare model.[2] Since some form of national health insurance for the entire population is under consideration and Medicare already is a form of national health insurance for the aged, a study of Medicare administrative cost experience should yield valuable insights for the discussion of the administrative aspects of the various bills on national health insurance.

Beginning with Medicare administrative costs for the July 1966–July 1972 Medicare period, each facet of the Federal Government's involvement with Medicare is explained on an agency-by-agency basis to give the reader some familiarity with the agencies, their respective tasks, the costs of those tasks, and the cost allocation procedure. Then, the components of total Medicare administrative costs on a per enrollee basis are analyzed and the per bill administrative experience of the intermediaries and carriers are examined on an aggregate basis to determine those factors that contribute significantly to administrative costs.

A discussion of the extent of intermediary and carrier involvement in Medicare on a disaggregate basis follows. Analysis of intermediary and carrier costs indicates a wide range of experience. Subsequently, comparisons are made of intermediary and carrier operating results in their own business with operating results in their Medicare business. This comparison represents an attempt to ascertain if the Medicare business is somehow different and, thus, to explain why

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[1] Medicare's administative costs were $474 million in 1972. For the provisions of the Medicare law and regulations, see *Medicare: Health Insurance for the Aged, 1971, Section 2: Persons Enrolled in the Health Insurance Program*, Office of Research and Statistics, Social Security Administration, 1973, pages xxiii–xxvii.

[2] See Saul Waldman, *National Health Insurance Proposals: Provisions of Bills Introduced in the 93d Congress as of February 1974*, Social Security Administration, Office of Research and Statistics, 1974.

Medicare operating results are different. Because the Federal Government's role in Medicare is primarily that of a financier, enforcer of standards, and gatherer of statistical information pertaining to the program, as it would be under any publicly financed program, regardless of the degree to which private contractors perform other services, the final sections of the article place major emphasis on the cost performance of the intermediaries and carriers.

EFFICIENCY MEASURES OF HEALTH INSURERS

One of the measures commonly used by the insurance industry to compare the efficiency of insurers is the operating ratio, an expression of administrative expenses as a percentage of premiums paid by insurees. In 1971 that ratio was 23.5 percent for all commercial insurers, 7.0 percent for Blue Cross-Blue Shield and other hospital-medical plans, and 5.1 percent for Medicare.[3]

Although these figures seem to indicate that Medicare is administered in a more efficient manner than other health insurance programs, such efficiency comparisons raise more questions than they answer. Most often, comparisons of insurers' operating efficiency are made on the basis of the ratios of administrative expenses to claims expense or administrative expenses to premiums. While such comparisons may be useful in some contexts, they may also obfuscate certain essential tradeoffs that an insurer may make. In an analytically precise form, the insurance relationship can be seen in the equation $B = P - (A + C)$, where B is a break-even point for nonprofit firms such as Blue Cross-Blue Shield or Government or a targeted level of profit for commercial firms, P is premium income or tax revenue, A is administrative costs, and C is claims costs.

Whether administrative costs are divided by premium income or by claims costs for purposes of comparison, the differing nature of the health insurance business demands that the ratios vary widely, depending upon which variables different insuring organizations use to break even or gain a targeted level of profit. One insurer may be lax on claims review, and his claims costs may be relatively high but his administrative costs may be lower because he uses less staff. Another insurer may have lower claims costs, and his administrative costs may be higher because of his extensive use of claims examiners. A third insurer may be able to raise premiums to compensate for increases in administrative costs or claims costs. The insurees of all three insurers may be receiving the same amount of real medical care and real health insurance, but the ratios of administrative costs to premiums or claims costs will differ.

Ratio comparisons further demand that all other things be equal. If certain relevant characteristics of the populations being served are different, the comparisons may be distorted. When administrative costs, for example, do not increase at as rapid a rate as claims costs (a medical bill twice as large does not produce administrative costs twice as large), then comparing ratios of administrative costs to premiums or claims costs for the purpose of determining efficiency will give misleading results if one insurer's population has large medical bills in relation to those of another insurer. Moreover, differing insurers' benefit packages may affect the ratio because some types of coverage are more expensive to administer than others.

More important, perhaps, efficiency comparisons based upon ratios such as administrative costs to premiums or claims costs also imply a certain concept of the insurance function that may not be completely valid. When an individual buys health insurance or enrolls in a program such as Medicare, he purchases pure insurance—that is, a contingency claim against future losses of wealth—but he also buys a package of services along with the pure insurance. Such services include information, certain time-saving features, and various levels of availability of assistance in the illness-payment process. Since administrative costs contain the costs of administering both the pure insurance and the ancillary services, valid efficiency comparisons for differing insurers may

[3] The hospital insurance segment of Medicare has no premiums. The denominator for the Medicare ratio is administrative cost plus benefits paid. Sources of the data used to compute these ratios are: Health Insurance Institute, *1972–73 Source Book of Health Insurance Data*, 1973, page 5; Marjorie Smith Mueller, "Private Health Insurance in 1971: Health Care Services, Enrollment, and Finances," *Social Security Bulletin*, February 1973, table 13, page 15; National Underwriter Company, *1972 Argus Chart of Health Insurance*, page 112; and tables M–7 and M–8 of the *Social Security Bulletin*, March 1974, pages 52–53.

be made only if either the ancillary services are identical or if administrative costs are stripped of the costs of these ancillary services.

MEDICARE ADMINISTRATIVE EXPENSES

Medicare covers hospital insurance (HI), financed through the payroll tax in the same manner as old-age, survivors, and disability insurance benefits are financed, and supplementary medical insurance (SMI), jointly financed through general revenues and monthly premium payments deducted from the monthly benefit checks of the aged and by the premiums paid by persons aged 65 or over who are not entitled to social security benefits but who have enrolled voluntarily for SMI coverage. Until 1973, these payments bore a systematic relation to expected expenditures under SMI: the premium was set at one-half the cost of the program. In 1973 the method of financing SMI was amended. The future rate of increase in the beneficiary share of the premium will be limited to the rate of increase in the amount of old-age benefits. General revenues will pay the rest.

Although the Federal Government is the insurer under Medicare, the major portion of program administration is handled by the intermediaries for HI and carriers for SMI. The 82 intermediaries and 48 carriers are reimbursed for the reasonable costs they incur in performing administrative functions for the Government. Intermediaries are selected by the Secretary of Health, Education, and Welfare on the basis of nominations from groups or associations of providers. A member of a provider association, however, may elect to be reimbursed by an intermediary other than that nominated by his association or may elect to be reimbursed directly by the Social Security Administration. About 90 percent of all payments under HI currently are made by Blue Cross plans.

Carriers, on the other hand, are selected directly by the Secretary of Health, Education, and Welfare. With the exception of the benefits for railroad retirees (administered by the Travelers Insurance Company), carriers are assigned administrative responsibility for the services provided in a geographic area. Thus, for example, beneficiaries who may be Pennsylvania residents visiting Florida are expected to submit claims to the Florida carrier for any medical expenses incurred in that State and to the Pennsylvania carrier for any medical expenses incurred in Pennsylvania. A patient may deal directly with the carrier, or he may assign his bill to the physician or other supplier for collection if he is willing to accept assignment from the patient. About two-thirds of all SMI bills were assigned in 1971. When there is no assignment the Medicare enrollee has to pay the difference between what the physician charges and what Medicare pays as an allowable charge. The percentage of assigned claims decreased in 1972 and 1973.

Intermediaries make payments to hospitals, extended-care facilities (now called skilled-nursing facilities), and home health agencies for covered items and services on the basis of reasonable cost determinations. They also audit provider accounts to determine the accuracy of Medicare billing, make cost reports and checks for reasonableness of costs, conduct claims reviews to check the coverage of services billed, and monitor the appropriateness of medical treatment. Carriers determine allowed charges (based on the customary charge by the individual provider for the specific service and based on prevailing charges in the locality for similar services) for bills submitted to them by physicians or other suppliers of services. They also pay 80 percent of the allowed charges after an annual deductible ($50 until January 1, 1973, $60 since that date) has been met.

It is commonly acknowledged that the Medicare program is more comprehensive and complex than much of the health insurance coverage provided by commercial insurers and the Blue Cross-Blue Shield plans. An examination of some of the significant characteristics of Medicare and other plans may help to explain cost differences:

(1) Intermediaries are required by law to make payments for services based on reasonable costs. (Reimbursement formulas are applied to cost reports made by providers to establish reasonable costs.) As a consequence of this payment system, intermediaries must audit providers under the HI program. These provider audits are one of the largest expenses in the program. Commercial insurers do not have this expense; some of the Blue Cross plans require very limited or no audits in their own business.

(2) The SMI portion of Medicare, in determining payments to physicians and other suppliers, applies

TABLE 1.—Medicare trust fund expenditures: Amount of benefit payments and administrative costs, fiscal years 1967–73

[Amounts in millions]

Fiscal year	Number of enrollees (in thousands)	Total expenditures	Benefit payments	Administrative costs					
				Total		Intermediaries		Government	
				Amount	Percent of expenditures	Amount	Percent of expenditures	Amount	Percent of expenditures
	HI and SMI								
1967	19,115	$3,345	$3,171	$174	5 1	$94	2.8	$80	2 4
1968	19,496	5,376	5,126	250	4 7	153	2 9	97	1.8
1969	19,815	6,603	6,299	304	4 6	193	2 9	110	1.7
1970	20,278	7,133	6,783	350	4 9	234	3 3	116	1 6
1971	20,732	7,885	7,478	407	5 2	263	3 4	144	1 8
1972	21,150	8,793	8,364	429	4 9	285	3 2	145	1 6
1973	21,601	9,534	9,040	494	5 2	310	3 3	184	1.9
	HI								
1967	19,088	$2,583	$2,508	$75	2 9	$25	1 0	$49	1 9
1968	19,465	3,832	3,736	96	2 5	41	1 1	54	1 4
1969	19,751	4,768	4,654	114	2 4	56	1 2	57	1.2
1970	20,174	4,940	4,804	136	2 7	73	1 5	63	1.3
1971	20,588	5,591	5,443	148	2 6	74	1 3	74	1.3
1972	20,970	6,279	6,109	170	2 7	90	1 4	79	1.3
1973	21,375	6,843	6,649	194	2 9	87	1 3	107	1 6
	SMI								
1967	17,750	$762	$663	$99	12 4	$8	8 5	$31	3 9
1968	18,021	1,545	1,390	155	10 1	112	7 3	43	2 8
1969	18,885	1,835	1,645	190	10 3	137	7 4	53	2 9
1970	19,329	2,193	1,979	214	9 7	161	7 3	53	2 4
1971	19,739	2,294	2,035	259	11 3	190	8 3	69	3 0
1972	20,150	2,514	2,255	259	10 2	195	7 7	65	2 6
1973	20,545	2,691	2,391	300	11 4	223	8 5	77	2 9

Source: Unpublished Department of the Treasury data.

reasonable charge criteria involving customary and prevailing charge screens. Very few of the other health insurance programs use this procedure, and those that do have done so only since refinement of the concept for Medicare.

(3) The magnitude of the Medicare program and the broad coverage available to the aged involving most suppliers of health services require a multifaceted system of checks to protect against program abuse. Most private programs do not make extensive use of such safeguards.

(4) Under Medicare the costs of covered services provided by extended-care facilities and home health agencies are insured. Bills for these services are costly to process in terms of the ratio of administrative costs to benefits. Significant amounts of outlays for hospital physicians' services and other outpatient services also are insured. A small portion of all these costs is covered by some of the other health insurance programs, but none covers all the same services for all enrollees.

(5) The Medicare program primarily offers coverage to the elderly. This segment of the population uses substantially more health services than do persons under age 65.

(6) For beneficiaries aged 65 and over, forms must be designed that can be easily understood by older people, detailed explanations of all actions taken on each claim must be provided, and resources must be readily available for extensive personal contacts through the social security district offices, intermediaries, and carriers to provide explanations of all aspects of a complex program.

(7) Under the Medicare program provisions, an individual has the right to a limited reconsideration of his claims and, beyond that, a hearing by an independent agency to ensure that the program has been properly administered and the individual's rights protected.

An historical account of administrative cost experience under Medicare through 1973 is given in table 1. These data differ from the administrative cost data presented monthly in tables M–7 and M–8 in the SOCIAL SECURITY BULLETIN. The BULLETIN data are from the Department of the Treasury and represent trust fund withdrawals "in the year." The data in table 1 are trust fund withdrawals "for the year" in question. From the point of view of economic analysis, the "for the year" concept is preferable because the figures indicate when the actual transfer of resources occurred. Total Medicare administrative costs "in the year" for fiscal year 1973, for example, were $439 million, and administrative costs "for

the year" were $494 million. Thus, although only $439 million was actually withdrawn from the trust fund, $494 million in real administrative resources were actually used in that year.

When administrative costs are presented as aggregate sums or as a percentage of program expenditures, supplementary medical insurance has proved to be more expensive to administer than hospital insurance. This finding is not surprising. Under SMI there was a greater absolute number of claims in 1972—54.0 million compared with 17.4 million bills for HI—and the average amount claimed was much less under SMI than under HI. Claims rather than bills are used as the unit of output because of differences for the two programs in the method of data collection by the Bureau of Health Insurance. A claim is defined as a request for payment for services rendered to a beneficiary, regardless of the number of suppliers or services involved. A bill has a more limited meaning, and several bills could be included in a claim.

From 1968 to 1972 the number of HI bills grew at an average annual rate of 4.7 percent while the comparable rate for SMI claims was 12.4 percent. There is some evidence that physicians now submit claims more quickly and more frequently to assure faster payment. Early in the program, a physician might have let a patient's bills accumulate for a month before submitting a claim to Medicare or billing the patient; now, he may submit claims weekly or biweekly. Bureau of Health Insurance data indicate that the number of bills per claim has diminished. Title XIX also encourages physicians to submit claims more frequently. (Under provisions of that title of the Social Security Act (Medicaid) and title XVIII (Medicare), States may pay the SMI premiums for the needy aged.) In 1969, several additional States had "bought into" Medicare.

Under HI, the intermediaries are dealing primarily with the hospitals and the average hospital bill is larger than the average physician bill. Under SMI, on the other hand, reimbursement is primarily for the services of individual physicians.

The combined administrative expenses of the intermediaries and Government for Medicare ranged from 4.6 percent to 5.2 percent of expenditures from fiscal years 1967 to 1973. The 1967 administrative cost data, however, include some start-up costs incurred in 1965 and 1966. These figures are lower than those for the commercial health insurers and Blue Cross-Blue Shield. One important reason why this particular measure is lower for Medicare is that the aged become ill more frequently than the rest of the population[4] and consequently have larger average annual medical expenditures.[5]

An equally important reason for the lower ratio of Medicare administrative costs to benefits is that the uniformity of the Medicare program makes handling its health insurance product easier than dealing with the multiple benefit packages often offered by the commercial insurers and Blue Cross-Blue Shield. Furthermore, the commercial insurers incur large selling and underwriting costs for individual health insurance.

The overwhelming majority of Medicare administrative costs are the responsibility of the Social Security Administration. In table 2 these costs to the administrative agency are examined in detail for fiscal year 1971. Although the Social Security Administration was responsible for $391.9 million of the HI and SMI obligations in fiscal year 1971, two-thirds of that amount was obligated to the intermediaries and carriers who are reimbursed by the Social Security Administration at cost for the mechanics of claims payments, provider audits, claims reviews, and other administrative duties.

Almost the entire Treasury obligation represents the costs incurred by the Internal Revenue Service (IRS) in collecting the Medicare portion of the social security tax. To obtain a cost figure, the Treasury applies a computed unit cost to the actual number of social security tax returns received by IRS. Included in the computed unit cost are the operating and administrative costs incurred by IRS for processing tax returns and remittances, obtaining delinquent returns, col-

[4] See *Age Patterns in Medicare Care, Illness and Disability—United States, July 1963–June 1965*, Public Health Service, National Center for Health Statistics (Series 10, No. 32), 1966, table 1.

[5] Barbara S Cooper and Nancy L. Worthington, "Age Differences in Medical-Care Spending, Fiscal Year 1973," *Social Security Bulletin*, May 1974. See also John Krizay, "Does the Social Security Administration Really Run Medicare on 2 Percent of Income?" *Perspective*, Fourth Quarter, 1972, pages 12–16 (inserted in the *Congressional Record*, June 7, 1973, page F10602) and John Krizay, "Health Insurance: Can the Government Do It Cheaper?" *Bests Review*, January 1973, page 15.

TABLE 2.—Medicare administrative costs (obligations), fiscal year 1971

Agency or program	HI	SMI
Total	$148,731,136	$260,548,845
Department of the Treasury	6,379,468	43,766
Bureau of Accounts	169,082	16,235
Internal Revenue Service	6,210,340	0
Office of the Treasurer of the U S	46	9
Secret Service	0	27,522
Civil Service Commission	0	126,281
Department of Health, Education, and Welfare		
Office of the Secretary	1,507,000	1,487,000
Departmental management	740,000	1,402,000
Office for Civil Rights	767,000	85,000
Community Health Services	3,755,000	764,000
Social Security Administration	135,567,668	256,291,798
Bureau of District Office Operations	11,265,482	20,406,528
Bureau of Retirement and Survivors Insurance	2,095,368	3,141,596
Bureau of Health Insurance	13,664,327	14,742,804
Health insurance State agencies	10,138,000	2,472,000
Intermediaries and carriers	73,877,000	189,723,000
Bureau of Data Processing	19,544,480	18,168,783
Office of Research and Statistics	401,154	3,635,087
Bureau of Hearings and Appeals	1,436,806	
Incentive reimbursement experimentation [1]	364,000	0
All other	2,781,051	4,002,000
Construction	1,522,000	1,836,000

[1] Authorized under 1967 and 1972 Social Security Act Amendments and administered by the Bureau of Health Insurance and the Office of Research and Statistics.

Source: Unpublished Social Security Administration data

lecting delinquent accounts, and auditing employers' records. Because the operations applicable to the tax returns that affect the trust funds are so closely integrated with non-trust-fund matters, the Treasury does not maintain separate cost records for trust fund activities. Percentage factors are therefore used to arrive at a computed cost based upon known activity costs from special studies and from the judgments and experiences of personnel at pertinent organizational levels. This unit cost is adjusted periodically to recognize program changes and other factors such as general pay increases.

The Division of Disbursement of the Bureau of Accounts issues checks for the trust funds. Trust fund accounting records are maintained by the Bureau of Accounts, which also invests their funds and performs the annual audit. The cost of performing these services for the trust funds is based on time consumed and volume of work. The Office of the Treasurer of the U.S. is also responsible for payment and reconciliation of U.S. Government checks and handles claims arising from loss, theft, and forgery of such checks. Costs applicable to the trust funds are based on the check volume processed.

The U.S. Secret Service investigates forgeries of Government checks, and the costs applicable to the trust funds for this service are based on the actual number of trust fund forgery cases closed in the fiscal year times the unit cost developed from the total cost incurred by the Secret Service in investigating all Government check forgeries. Because it makes Medicare SMI premium deductions from civil service retirement annuitant checks, the Civil Service Commission also charges the Medicare trust fund.

The heading listed in table 2 as "Departmental management" contains charges made to the trust funds by the following offices within the Office of the Secretary of Health, Education, and Welfare: Office of the Secretary, Office of the Comptroller, Office of the General Counsel, Office of Community and Field Services, and Office of Administration. Each of these offices estimates the amount of time its personnel spend on Medicare matters and the Office of the Secretary then bills the Social Security Administration for the amounts of money involved.

Section 201(g)(1) of the Social Security Act authorizes the Secretary to transfer money from the trust funds to pay for Office of the Secretary administrative functions related to the social security program. The amount of the transfer is specified annually in the appropriation law and is determined by the proportion of resources in the Office of the Secretary devoted to Social Security Administration functions. To prevent simple pro rata requisitioning based on the Social Security Administration proportion of DHEW (Health, Education, and Welfare) personnel, "related administrative function" is interpreted strictly to encompass such functions as (1) research efforts related to Social Security Administration programs, including health insurance, nursing homes, and income maintenance; (2) congressional liaison directly related to Social Security Administration matters; (3) equal opportunity functions and management of analytical resources directly related to the Social Security Administration; (4) legal services rendered to or related to the Social Security Administration; (5) budget, financial, and audit resources related to the Social Security Administration; (6) resources expended to secure Social Security Administration facilities; and (7) civil rights compliance efforts aimed at provider institutions receiving Social Security Administration funds.

The Social Security Act authorizes the Federal

Government to contract with State agencies to carry out certain functions under both the disability insurance and Medicare programs. State agencies certify hospitals, skilled-nursing facilities, and other providers of medical services for participation in Medicare. In addition, Medicare payments are made to hospitals, skilled-nursing facilities, and other providers of services. Periodic reviews must be made to ensure that these agencies and institutions comply with the provisions of the Civil Rights Act before receiving payments from the trust funds. (Title VI of that Act prohibits the use of Federal funds for programs that discriminate on the basis of race, color, or national origin.) The Office of Civil Rights conducts these compliance reviews.

The Health Services Administration and the Health Resources Administration[6] provide a number of services under Medicare—basically to set standards for providers and suppliers of health care services and to help see that such standards are enforced.

The 1967 and 1972 Social Security Act amendments provide authorization to conduct experiments for reimbursement of providers of services on a basis other than the "reasonable cost" or "reasonable charges" provisions generally applicable under Medicare and for testing the effect of providing additional benefits such as day care and intermediate care. These experiments are implemented in an effort to achieve incentives for economy while maintaining or improving quality in the provision of health services. Costs of administering and evaluating the experiments are distributed currently on an estimated basis between the hospital insurance and the supplementary medical insurance trust funds.

It is possible to maintain that a small portion of the allocation of costs to Medicare, and between HI and SMI, by the various offices involved in its functioning is a rather arbitrary process, especially the allocation of overhead. Most business firms, however, face the same problem in allocating costs to a particular product or program. Rules of thumb are usually developed. The economist's preferred rule for allocating such costs is to do so on the basis of marginal revenues. It is open to question whether this procedure is approximated by business firms or governments. Estimates by key personnel are usually made and strict accounting procedures are followed.

One may also argue that Medicare administrative costs are artificially low because the fair rental value of Government buildings is not included in Medicare costs and Government does not depreciate its capital goods. This is only partly true, because the government does use some rented space, and the rents are included in the cost of Medicare. Moreover, it must be remembered that the preponderant burden of Medicare administration is borne by the intermediaries who do include in their cost reports to the Social Security Administration rents and depreciation for which they are reimbursed. The extent of understatement in Medicare costs because of the exclusion of Government rents and depreciation is therefore probably negligible compared with all other administrative costs.

It has also been suggested that Medicare's true administrative costs are understated because the amount of congressional time spent on hearings, investigations, and legislation pertaining to Medicare is not included. No attempt at such a refinement has been made in the cost computations here for two reasons. First, there is no logical place to draw the line. If, for example, congressional time were to be included in Medicare administrative costs, then the time spent by State insurance commissions and by State lawmakers on State laws and regulations pertaining to health insurance ought to be included in the administrative costs of Blue Cross-Blue Shield and the commercial health insurers. Second, it would be impossible, as a practical matter, to compute these costs.

ADMINISTRATIVE COSTS PER ENROLLEE AND PER BILL

To obtain a different perspective on administrative costs, Medicare costs can be analyzed on a per enrollee and on a per bill basis. These two measures are not a function of the size of the denominators, claims costs, or premiums, which themselves are a function of the amount of medical care consumed and the price of care.[7]

[6] Formerly the Health Services and Mental Health Administration.

[7] R. J. Weiss, et. al., "Trends in Health Insurance Operating Expenses," *New England Journal of Medicine*, September 28, 1972, pages 638–643.

TABLE 3.—Medicare trust fund expenditures: Amount per enrollee for benefit payments and administrative costs, fiscal years 1967–73

Type of expenditure	1967	1968	1969	1970	1971	1972	1973
	HI and SMI						
Expenditures per enrollee	$174 97	$275 77	$333 21	$351 74	$380 34	$415 77	$441 37
Benefit payments	165 89	262 93	317 89	334 49	360 69	395 46	418 50
Administrative costs	9 08	12 84	15 32	17 25	19 65	20 31	22 87
Intermediaries and carriers	4 89	7 87	9 76	11 53	12 71	13 46	14 34
Government	4 19	4 97	5 56	5 72	6 94	6 84	8 53
	HI						
Expenditures per enrollee	$135 32	$196 84	$841 39	$244 89	$271 57	$299 42	$320.13
Benefit payments	131 39	191 93	235 64	238 13	264 37	291 32	311 06
Administrative costs	3 93	4 91	5 75	6 76	7 20	8 10	9 07
Intermediaries and carriers	1 35	2 11	2 85	3 63	3 59	4 29	4 06
Government	2 58	2 80	2 90	3 13	3 61	3 81	5 02
	SMI						
Expenditures per enrollee	$42 91	$85 73	$97 33	$113 43	$116 24	$124 79	$130 99
Benefit payments	37 35	77.13	87 25	102 38	103 11	111 91	116 38
Administrative costs	5 56	8 60	10 08	11 05	13 13	12 88	14.61
Intermediaries and carriers	3 81	6 23	7 27	8 30	9 61	9 66	10 86
Government	1.75	2 37	2 81	2 75	3 52	3 22	3 75

Source: Unpublished Social Security Administration data.

Benefits per enrollee have increased at a faster rate than administrative expenses per enrollee under both HI and SMI when 1967 is the base year (tables 3 and 4). On a year-to-year basis, these changes have been somewhat uneven. The largest increase per enrollee in benefits and administrative cost occurred between 1967 and 1968, particularly under the SMI program. At the outset of the Medicare program there was a considerable lag before bills were submitted and processed for reimbursement. Benefit and administrative cost figures for 1968 reflect much of the catch-up for 1967.[8] Furthermore, intermediary and carrier administrative costs per enrollee have increased at a more rapid rate than those of the Government, with the cost increase differential greater under the HI program. For administrative costs, as for benefit payments, the largest increase occurred for intermediaries and carriers from 1967 to 1968. Although the annual percentage change in administrative costs per enrollee has remained at about 13 percent since 1968, there were two periods when it varied significantly: from 1968 to 1969 it was 19.3 percent and from 1971 to 1972 it dropped to 3.4 percent.

[8] See Howard West, "Five Years of Medicare—A Statistical Review," *Social Security Bulletin*, December 1971, and Louis S. Reed, *Private Health Insurance Organizations As Intermediaries or Fiscal Agents Under Government Health Programs*, Staff Paper No. 7, Office of Research and Statistics, January 1971.

The data in table 4 follow a pattern that might be expected from a large new program such as Medicare. Following the enactment of the program, enrollees respond slowly initially and then more rapidly as shown by the 1967–68 percentage changes. Annual increases in benefits slow down as the most pressing needs of enrollees are met. As claims are submitted with a lag, the administrative mechanism needs time to consolidate itself and then rates of increase in administrative costs also decelerate. With 1968 as a base year, it is seen that administrative costs per enrollee have been growing at a more rapid rate than benefits per enrollee. Several factors account for the difference in growth rates. The lag in benefit payments has already been mentioned. In addition, as rising benefit payments attracted closer congressional scrutiny and executive department interest in cost control, more emphasis was placed upon careful monitoring of provider bills, with a resultant drop in the rate of increase in benefit payments.

Additional burdens were added to the administrative system by amendments on claims review, capital controls, and generally more paper work to justify the payment of bills and interim cost payments. These events led quite naturally to an acceleration in the increase in administrative costs and a deceleration in the rate of growth of benefit payments. Since percentage changes over

TABLE 4.—Medicare trust fund expenditures: Percentage change in amount per enrollee for benefits payments and administrative costs, fiscal years 1967–73

Type of expenditure	1968	1969	1970	1971	1972	1973	1967–73	1968–73
	HI and SMI							
Expenditures per enrollee	57 6	15 8	5 6	8 1	9 3	6 2	152 3	60 1
Benefit payments	58 5	20 9	5 2	7 8	9 6	5 8	152 4	59 3
Administrative costs	41.4	19 3	12 6	13 9	3 4	12 6	151 8	78 1
Intermediaries and carriers	60 9	24 0	18 1	10 2	5 9	6 5	193 3	82 2
Government	18 6	11 9	2 9	21 3	−1 4	24 7	103 6	71 6
	HI							
Expenditures per enrollee	45 5	22 6	1 4	10 9	10 3	6 9	136 6	62 6
Benefit payments	46 1	22 8	1 1	11 0	10 2	6 8	137 4	62 0
Administrative costs	24 9	17.1	17 6	6 5	12 5	12 0	130 8	84 7
Intermediaries and carriers	56 3	35 1	27 4	−1 1	19 5	−5 4	200 7	92 4
Government	7 7	3 9	7 9	15 3	5 5	31 8	95 3	79 9
	SMI							
Expenditures per enrollee	99 8	13 5	16 5	2 5	7 4	5 0	205 3	52 8
Benefit payments	106 5	13 1	17 3	7	8 5	4 0	213 5	50 6
Administrative costs	54 7	17 2	9 6	18 8	−1 9	13 4	163 1	70.0
Intermediaries and carriers	63 5	16 7	14 2	15 8	5	12 4	185 4	74 3
Government	35 6	19 1	−2 5	28 5	−8 8	16 8	115 5	58 9

Source Unpublished Social Security Administration data.

a period of years are a function of both the base year chosen and the terminal year, it is difficult to make inferences without additional information as to what transpired in the period specified. Evidence shows that monitoring activities have increased considerably. In addition, price controls went into effect on August 15, 1971. The effect of these controls was to slow the rate of increase of all prices and costs during fiscal year 1972.

Intermediary and carrier operating statistics between fiscal years 1968 and 1972 are analyzed separately because of the difference in the nature of their tasks under Medicare. For intermediaries the largest average annual percentage increases all are related to provider audit activity (table 5). Between those years the total number of bills processed increase at an average annual rate of 4.1 percent while total intermediary administrative costs increases at an average annual rate of 18.7 percent.[9] Even though provider audit costs peaked at $35.6 million in 1970, they still managed to show an average annual rate of increase of 27.0 percent during the period. Because provider audit costs constituted almost 30 percent of all administrative costs in 1972, it is obvious that emphasis is being placed upon the correctness of hospital cost allocated under the HI program. The decrease in provider audit between 1970 and 1972 was due to cost-benefit analyses of the audit function. The decision was made to reduce the number of full audits where appropriate hospital cost allocation had taken place.

Of the $54.7 million increase in total administrative costs during the 1968–72 period, $11.1 million[10] is attributable to the increased volume of bills, $19.2 million to an increase in audit activity, and the remaining $24.4 million to the increased costs of resources allocated to claims. The average salary intermediaries pay to their employees rose at an average annual rate of 10.3 percent in the 1969–72 period. Employee productivity, measured as the number of bills processed per employee, declined by 4.9 percent annually during the same period. A decline in productivity measured in this manner, however, is not without ambiguity. The amount of manpower allocated to provider audit increased at an average annual rate of 44.0 percent. If the increased audit activity led to better cost allocation within the hospitals and thus to more appropriate Medicare reimbursement to the hospitals, it may partly explain why the amount of benefits paid under the program did not increase at an even more rapid rate. Bills processed per

[9] These data exclude any Government administrative costs.

[10] This figure is obtained by multiplying the change in the number of bills processed from 1968 to 1972 by the unit cost per bill in 1968.

TABLE 5.—Hospital insurance intermediary operating statistics, 1968–72

Item	1968	1969	1970	1971	1972	Average annual percentage change, 1968–72
Benefit payments						
Total amount (in millions)	$3,727	$4,638	$5,017	$5,587	$6,288	14 0
Per bill	$256 72	$301 72	$320 17	$341 51	$361 21	8 9
Administrative costs						
Total amount (in millions)	$55 4	$75 8	$99 4	$99 9	$110 1	18 7
Provider audit	12 2	22 6	35 6	27 0	31 4	27 0
Other	43 2	53 2	63 8	72 9	78 7	16 2
Per bill	$3 82	$4 93	$6 34	$6 04	$6 33	13 5
Provider audit	84	1 47	2 27	1 59	1 81	21 0
Other	2 98	3 46	4 07	4 45	4 52	11 0
Average annual salary per employee	(1)	$6,947	$7,671	$8,556	$9,335	[2] 10 3
Provider audit	(1)	9,651	10,100	10,379	11,757	[2] 6 8
Other	(1)	6,638	7,260	8,128	8,808	[2] 9 9
Labor cost per bill	(1)	$2 72	$3 38	$3 57	$4 02	[2] 13 9
Without audit	(1)	2 33	2 73	3 01	3 08	[2] 9 7
Provider audit	(1)	39	65	56	94	[2] 34 0
Bills processed (in millions)	14 5	15 4	15 7	16 4	17 4	4 7
Per employee (per year)	2,828 04	2,552 73	2,266 64	2,276 68	2,327 44	−4 9
Per employee without audit	3,013 30	2,849 74	2,655 62	2,703 15	2,855 74	−1 3
Average annual manpower (number of persons)	5,134	6,022	6,913	7,186	7,480	9 9
Provider audit	322	618	1,001	1,119	1,387	44 0
Other	4,812	5,404	5,912	6,067	6,093	6 1

[1] Data not available
[2] Computed for 1969–72

Source. Unpublished Social Security Administration data

employee decreased at an average annual rate of 1.3 percent with provider audit activity excluded. Labor costs per bill increased—with and without audit activity—at average annual rates of 34.0 percent and 9.7 percent, respectively.

For SMI carriers, during the 1968–72 period, the number of claims processed increased at an average annual rate of 12.4 percent (table 6). Benefits paid increased at a slower average annual rate, 10.4 percent. As a consequence, benefits per claim actually declined by 1.9 percent per year. Claims processed under SMI increased at almost two and one-half times the rate of bills processed under HI in the period from 1968 to 1972.

Under HI benefits have gone up at an average annual rate of 14.0 percent; under SMI, they have risen at a slower rate (10.4 percent). This situation could be anticipated because inflation has been greatest in the hospital sector of the medical care market.

As with HI, administrative costs increased at a more rapid rate than benefits paid. Administrative costs per claim, however, have remained quite stable during these 5 years, and the number of claims processed per employee actually in-

TABLE 6.—Supplementary medical insurance carrier operating statistics, 1968–72

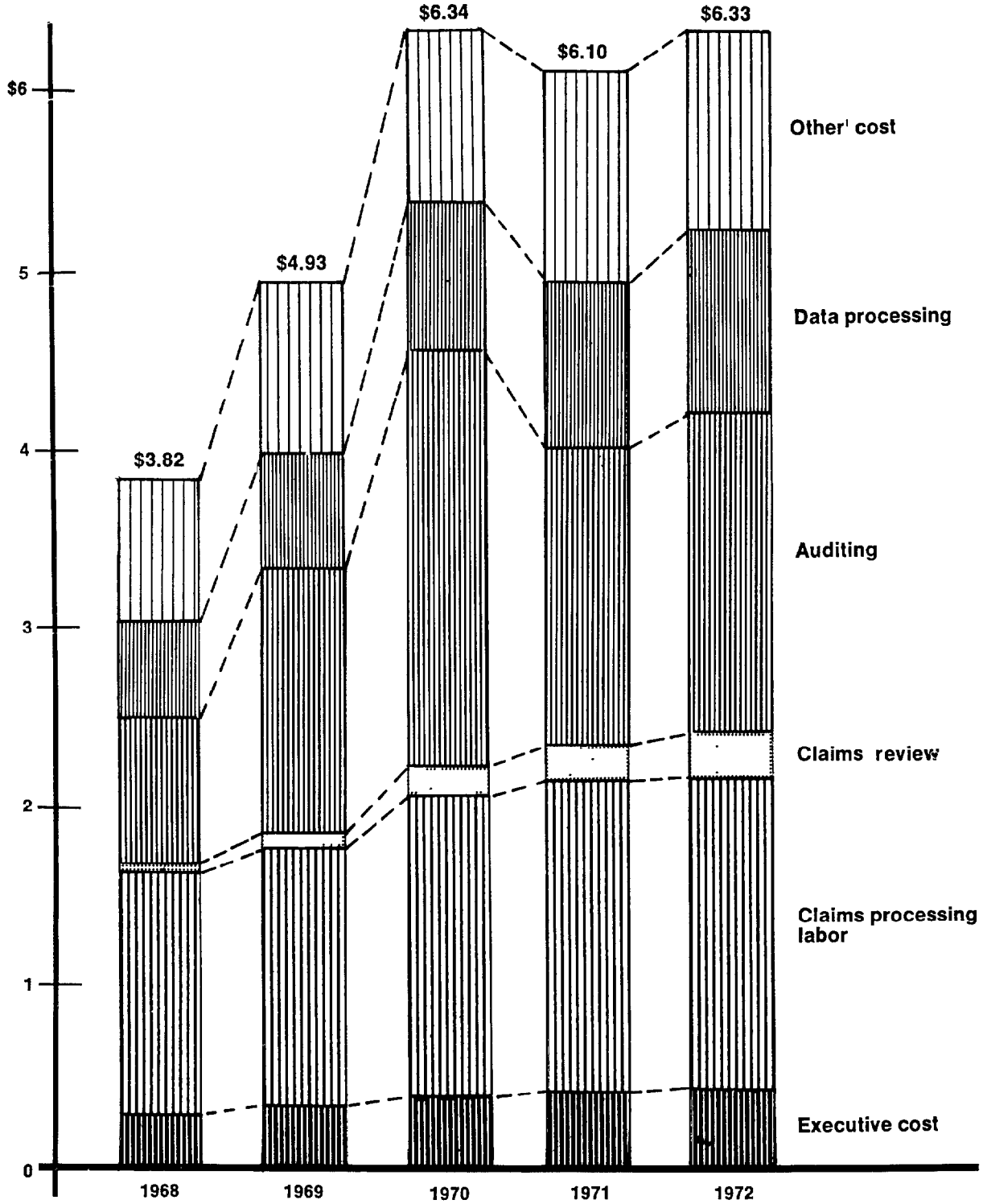
Item	1968	1969	1970	1971	1972	Average annual percentage change, 1968–72
Benefit payments						
Total amount (in millions)	$1,319	$1,510	$1,652	$1,775	$1,958	10 4
Per claim	$39 02	$39 12	$37 80	$36 45	$36 26	−1 9
Administrative costs						
Total amount (in millions)	$99 4	$118 4	$138 1	$159 9	$171 8	14 7
Per claim	$2 94	$3 07	$3 16	$3 28	$3 18	2 0
Average annual salary per employee	(1)	$6,077	$6,507	$7,136	$7,568	[2] 7 6
Labor costs per claim	(1)	$2 02	$1 91	$1 92	$1 86	[2]−2 8
Claims processed [3] (in millions)	33 8	38 6	43 7	48 7	54 0	12 4
Per employee (per year)	2,940	3,007	3,406	3,710	4,072	8 5
Average annual manpower (number of persons)	11,494	12,836	12,828	13,124	13,259	3 6

[1] Data not available
[2] Computed for 1969–72
[3] Includes railroad retirement benefits administered by Travelers Insurance Company.

Source. Unpublished Social Security Administration data.

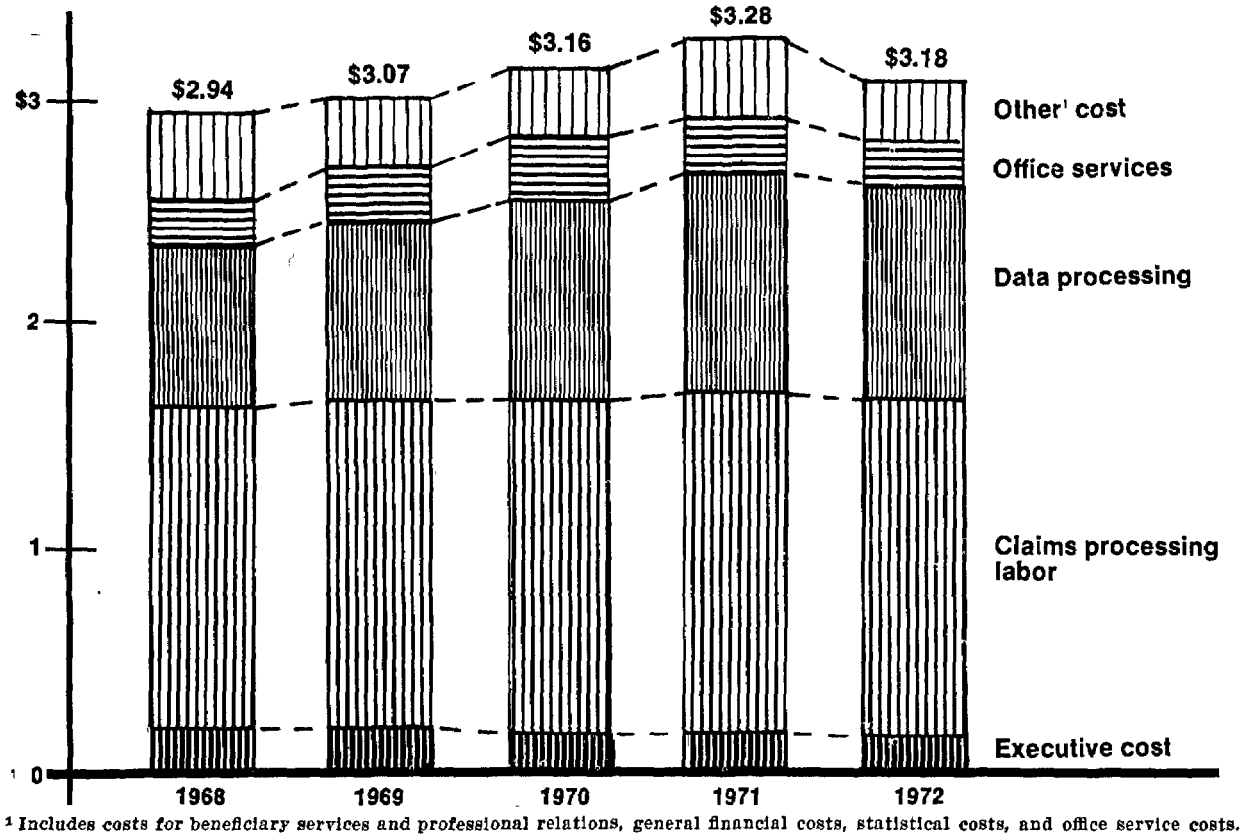
creased at an average annual rate of 8.5 percent. As noted, HI showed a slight decrease in productivity, measured in this fashion (when provider audit was included). Furthermore, the labor cost per claim actually dropped 2.8 percent per year from 1969 to 1972, even though the average

CHART 1.—Components of average administrative cost per HI bill, 1968–72



[1] Includes costs for beneficiary services and professional relations, general financial costs, statistical costs, and office service costs.

CHART 2.—Components of average administrative cost per SMI claim, 1968–72



[1] Includes costs for beneficiary services and professional relations, general financial costs, statistical costs, and office service costs.

amount of salary went up 7.6 percent annually.

Comparing chart 1 and chart 2 gives some insight into why HI and SMI operating statistics differ in rather important respects. The data are shown on an administrative cost per bill and per claim basis, and give unit costs for the components of administrative costs. Although SMI administrative costs appear to be higher than those for HI when expressed as a percentage of benefits paid or on a per enrollee basis, they are lower on a unit basis. This finding is not paradoxical precisely because HI benefits were almost three times as numerous as those of SMI in 1972.

There are difficulties in making efficiency comparisons even within the Medicare program. If the "output" of Medicare were "number of claims paid," then SMI might appear to be more efficient. If Medicare "output" is "total benefits paid"—that is, payments to protect peoples' financial position—or "payments per person enrolled," then HI might be deemed more administratively efficient. About 30 percent of the HI administrative costs are devoted to provider audit and claims review and these are the costs that have risen the most rapidly from 1968 to 1972.[11] The ratio of administrative costs to benefit payments or premiums can distort operating results if the quality of the program is not taken into account. Chart 1 shows graphically how Medicare's ratio of administrative costs to benefits paid could have been kept lower if there were less claims review and provider audit. Benefits paid would probably have been higher, and the quality of the program would have suffered.

Administrative tasks for SMI, on the other hand, are more claims specific, and large expenditures on electronic data-processing equipment have been able to offset the rising labor costs. Except for data-processing costs, most components of SMI administrative costs have remained relatively stable on a per claim basis. Because auditing and claims review are more labor-intensive and demand a higher skill-mix than do the production type of activities under

[11] The optimal level of audits is that where the marginal cost of the audit equals the marginal saving in preventing an unallowable cost. This indicates that the optimal amount of unallowable costs is not zero.

SMI, one would expect HI administrative costs on a per claim basis to be higher.

EXTENT OF FISCAL AGENT INVOLVEMENT IN MEDICARE

The extent to which fiscal agents are involved with Medicare is seen in tables 7–9. Data for Blue Cross-Blue Shield plans and for the commercial insurers are released on a calendar-year basis; data for Medicare are issued for fiscal years. To make the data compatible, Medicare figures for fiscal years 1971 and 1972 were averaged. Enrollment data for States with multiple intermediaries, such as New York or Pennsylvania, are presented on a statewide basis. Strictly speaking, an intermediary or carrier does not have enrollees.

When the individual enrolled under Medicare uses a hospital service, the hospital may be reimbursed by Blue Cross because it has agreed to use Blue Cross as an intermediary or by a commercial insurer because that type of intermediary has been selected.

The Blue Cross intermediaries serve 74.9 million people under their regular business and 20.4 million people under Medicare. Their Medicare population is 27 percent of their regular enrollment. For many of the Blue Cross intermediaries, Medicare benefits as a percentage of regular business benefits (claims) are substantial; in a large proportion of cases they exceed 100 percent of regular business benefits. The Seattle, Jacksonville, and Great Falls plans have the largest

TABLE 7.—Blue Cross plans. Number of enrollees, benefit payments, and administrative costs under regular business and under Medicare, calendar year 1971

State and plan	Enrollees under—			Benefits paid under—			Administrative costs under—		
	Regular business	Medicare		Regular business	Medicare		Regular business	Medicare	
		Number	Percent of regular business		Amount	Percent of regular business		Amount	Percent of regular business
Total	74,932,397	20,356,890	27 2	$6,053,538,788	$5,407,846,500	89 3	$338,909,565	$62,308,049	18 4
Alabama, Birmingham	1,162,628	338,827	29 1	[1] 120,569,949	73,869,500	61 3	6,051,164	516,810	8 5
Alaska [2]									
Arizona, Phoenix	299,012	171,284	57 3	25,048,138	54,908,500	219 2	1,756,015	551,842	31 4
Arkansas, Little Rock	494,885	245,934	49 7	[1] 35,831,625	48,275,000	134 7	2,826,845	410,774	14 5
California	3,184,459	1,841,313	57 8	374,063,046	565,129,500	151 1	29,972,897	7,118,354	23 7
Los Angeles	1,676,184			[1] 205,773,940	347,463,500	168 9	15,377,238	4,102,018	26 7
Oakland	1,508,275			[1] 168,289,106	217,666,000	129 3	14,595,659	3,016,336	20 7
Colorado, Denver	890,179	194,668	21 9	68,986,293	65,079,500	94 3	4,348,021	869,504	20 0
Connecticut, New Haven	1,516,603	296,130	19 5	127,430,555	66,072,500	51 8	5,650,827	441,823	7 8
Delaware, Wilmington	402,349	46,664	11 6	30,674,677	12,711,000	41 4	1,091,816	200,368	18 4
District of Columbia, Washington [3]	1,374,225	151,442	4 8	93,744,917	39,877,500	42 5	5,179,981	418,790	8 1
Florida, Jacksonville	1,491,698	999,189	67 0	88,449,190	248,275,500	280 7	5,445,380	2,497,336	45 9
Georgia	946,578	379,811	40 1	56,420,592	71,371,500	126 5	3,256,912	1,140,542	35 0
Atlanta	468,456			32,721,115	29,085,500	88 9	1,683,306	522,958	31.1
Columbus	478,123			23,699,477	42,286,000	178 4	1,573,606	617,584	39 2
Hawaii [4]									
Idaho, Boise	143,630	72,196	50 3	[1] 9,932,771	14,855,500	149 6	1,104,475	278,852	25 2
Illinois	3,089,616	1,110,171	35 9	306,700,264	349,486,500	114 0	17,536,605	3,505,936	20 0
Chicago	2,970,264			299,234,890	343,382,500	114 8	16,601,102	3,446,540	20 8
Rockford	119,352			[1] 7,465,374	6,104,000	81 8	935,503	59,395	6 3
Indiana, Indianapolis	1,888,277	505,070	26 7	148,333,927	122,943,500	82 9	12,480,910	1,832,332	14 7
Iowa	1,164,085	357,525	30 7	66,166,081	109,873,000	166 1	4,278,403	1,146,207	26 8
Des Moines	915,773			53,064,663	70,277,500	132 4	3,368,125	796,376	23 6
Sioux City	248,312			13,101,418	39,595,500	302 2	910,278	349,830	38 4
Kansas, Topeka	756,041	272,968	36 1	50,973,511	56,665,500	111 2	3,692,789	713,524	19 3
Kentucky, Louisville	1,206,118	347,044	28 8	66,662,441	72,329,000	108 5	3,329,759	1,034,523	31 1
Louisiana	866,310	314,475	36 3	63,085,408	75,346,500	119 4	5,599,477	1,045,894	18 7
Baton Rouge	550,087			[1] 34,546,483	47,643,000	137 9	3,394,213	633,020	18 6
New Orleans	316,223			[1] 28,538,925	27,703,500	97 1	2,205,264	412,873	18 7
Maine, Portland	431,926	123,148	28 5	27,027,376	28,368,000	105 0	1,585,783	409,754	25 8
Maryland, Baltimore	1,399,888	303,293	21 7	124,971,003	75,041,000	60 0	5,127,392	855,050	17 3
Massachusetts, Boston	3,139,769	640,048	20 4	305,842,000	208,481,000	68 2	11,920,000	2,755,761	23 1
Michigan, Detroit	5,071,300	784,439	15 5	469,146,000	255,309,500	54 4	20,539,000	3,030,734	14 8
Minnesota, St Paul	892,557	421,246	47 2	67,354,396	126,729,000	188 2	5,120,086	1,579,236	30 8
Mississippi, Jackson	506,580	231,694	45 7	[1] 38,668,476	48,756,500	126 1	3,396,989	578,275	17.0
Missouri	1,797,954	569,461	31 7	146,787,263	169,070,000	115 2	7,334,508	2,128,978	29 0
Kansas City	539,173			44,439,818	56,847,000	127 9	2,631,212	463,057	17 6
St Louis	1,258,781			102,347,445	112,223,000	109 6	4,703,296	1,665,922	35 4
Montana, Great Falls	81,749	71,350	87 3	[1] 7,195,823	17,812,500	247 5	777,142	220,758	28 7
Nebraska, Omaha	389,583	186,802	47 9	26,648,797	36,949,500	138 7	2,351,224	286,494	12 2
Nevada [4]									
New Hampshire, Concord	565,634	133,303	15 0	33,944,451	33,477,000	98 6	1,967,935	604,361	30 7
New Jersey, Newark	3,695,572	711,571	19 3	274,760,000	129,917,500	47 3	11,727,257	1,240,200	10 6
New Mexico, Albuquerque	133,529	77,565	58 1	7,843,808	16,172,500	206 2	503,850	241,345	47 9

See footnotes at end of table.

TABLE 7.—Blue Cross plans: Number of enrollees, benefit payments, and administrative costs under regular business and under Medicare, calendar year 1971—*Continued*

State and plan	Enrollees under—			Benefits paid under—			Administrative costs under—		
	Regular business	Medicare		Regular business	Medicare		Regular business	Medicare	
		Number	Percent of regular business		Amount	Percent of regular business		Amount	Percent of regular business
New York	11,811,175	1,981,767	16 8	799,998,412	$642,106,000	$80 3	$46,944,371	$6,394,612	13 6
Albany	544,828			42,948,633	40,484,000	94 3	2,390,121	392,887	16 4
Buffalo	978,536			65,277,806	48,781,500	74 7	3,819,522	626,660	16 4
Jamestown	61,720			2,632,809	5,163,000	196 1	127,915	74,325	58 1
New York City	8,526,423			581,126,826	456,102,000	78 5	35,707,304	4,414,959	12 4
Rochester	834,595			56,080,114	28,934,500	51 6	2,427,184	357,670	14 7
Syracuse	525,869			33,321,021	36,406,500	109 3	1,479,418	282,400	19 1
Utica	293,922			15,931,957	22,650,500	142 2	770,993	203,512	26 4
Watertown	45,282			2,679,252	3,579,500	133 6	221,911	42,199	19 0
North Carolina, Chapel Hill-Durham	1,552,106	435,456	28 1	[1] 125,513,000	93,462,500	74 5	8,398,000	1,102,854	13 1
North Dakota, Fargo	290,930	69,680	24 0	21,465,640	21,005,000	97 9	1,311,051	218,416	16 7
Ohio	5,420,810	1,014,633	18 7	454,581,245	271,628,000	59 8	17,099,555	2,933,280	17 2
Canton	236,239			17,698,567	11,195,000	63 3	587,270	138,180	23 5
Cincinnati	1,514,914			125,012,767	67,919,500	54 3	5,086,946	827,222	16 3
Cleveland	1,785,875			165,857,450	84,374,000	50 9	6,592,331	959,321	14 6
Columbus	735,439			46,999,923	45,069,000	95 9	1,646,776	477,713	29 0
Lima	145,306			8,268,247	8,320,500	100 6	273,222	70,849	25 9
Toledo	619,275			53,880,718	29,559,500	54 9	1,910,602	249,726	13 1
Youngstown	383,762			36,863,573	25,190,500	68 3	1,002,408	210,268	21 0
Oklahoma, Tulsa	619,647	305,176	49 2	44,176,293	72,114,500	163 2	2,412,014	924,704	38 3
Oregon, Portland	465,512	235,568	50 6	[1] 44,614,885	58,521,000	131 2	3,708,311	561,436	15 1
Pennsylvania	6,495,527	1,298,811	20 0	506,615,628	265,776,000	52 5	21,806,673	3,201,106	14 7
Allentown	389,907			23,733,790	11,723,000	49 4	1,177,869	135,930	11 5
Harrisburg	900,394			59,179,671	40,557,000	68 5	2,655,910	483,453	18 2
Philadelphia	2,391,466			203,623,706	56,280,500	27 6	6,985,061	623,696	8 9
Pittsburgh	2,293,211			185,538,738	127,880,500	68 9	9,754,081	1,627,562	16 7
Wilkes-Barre	520,549			34,539,723	29,735,000	86 1	1,233,752	330,466	26 8
Rhode Island, Providence	714,630	106,679	14 9	53,726,867	34,464,500	64 1	2,084,063	443,403	21 3
South Carolina, Columbia	488,885	202,550	41 4	30,875,256	36,454,500	118 1	2,042,685	758,294	37 1
South Dakota [5]									
Tennessee	1,351,871	399,601	29 6	109,064,847	94,813,500	86 9	8,094,697	1,125,576	13 9
Chattanooga	1,161,860			[1] 89,679,319	72,060,000	80 4	6,295,037	816,826	13 0
Memphis	190,011			[1] 19,385,528	22,753,500	117 4	1,799,660	308,750	17 2
Texas, Dallas	2,802,691	1,026,809	36 6	[2] 292,632,278	275,047,500	94 0	18,304,225	2,615,731	14 3
Utah, Salt Lake City	319,423	81,032	25 4	19,550,507	16,414,500	84 0	1,249,898	304,055	24 3
Vermont [6]									
Virginia	1,174,333	378,494	32 2	81,559,536	72,820,500	89 3	4,390,170	990,940	22 6
Richmond	869,226			61,007,145	58,109,000	95 2	3,698,193	831,459	22 5
Roanoke	305,107			20,552,391	14,711,500	71 6	691,977	159,482	23 0
Washington, Seattle	444,872	333,472	75 0	[1] 40,023,340	64,691,500	161 6	4,398,203	718,759	16 3
West Virginia	387,012	202,777	52 4	30,884,741	45,045,500	145 8	1,207,641	660,696	54 7
Bluefield	30,014			194,051			104,024		
Charleston	204,690			15,493,851	23,517,500	151 8	675,922	287,038	42 5
Parkersburg	40,352			3,466,814	5,342,500	154 1	107,468	73,978	68 8
Wheeling	111,956			9,975,025	16,185,500	162 3	320,227	299,680	93 6
Wisconsin, Milwaukee	1,509,551	487,725	32 3	130,532,111	132,298,500	101 4	9,197,055	1,340,414	14 6
Wyoming, Cheyenne	100,688	31,876	31 7	4,461,429	6,871,000	154 0	307,511	104,854	34 1

[1] Includes surgical-medical plan
[2] Served by Seattle, Washington plan
[3] Includes enrollees in covered Maryland and Virginia counties
[4] No Blue Cross plan.
[5] Served by Iowa plan
[6] Served by New Hampshire plan

Source Unpublished Social Security Administration data and *Blue Cross-Blue Shield Fact Book, 1972*

Medicare enrollment as a percent of their business. Basically, three reasons account for this phenomenon: (1) The aged are twice as likely to be hospitalized as the rest of the population; (2) their average annual hospital bill is a little more than three times the average annual bill for the entire population;[12] and (3) Medicare benefit coverage is more extensive than that of many Blue Cross plans because the program covers extended-care facilities and home health agencies.

The mean Medicare administrative expense as a proportion of regular administrative expense is 18.4 percent, but there is substantial variation around that mean. This variation reflects the fact that some Blue Cross intermediaries are more efficient than are others and particularly the fact that some Blue Cross plans pay out a larger ratio of Medicare benefits to regular benefits than do others. Moreover, some Blue Cross plans have been more successful than others in selling coverage complementary to Medicare to the elderly, and such complementary coverage is included in regular-business statistics.

In addition, six Blue Cross and Blue Shield plans are merged. As a result, their ratio of mean Medicare administrative expense to regular administrative expense may be somewhat distorted in relation to the ratio for areas where Blue Cross and Blue Shield plans are separate entities.

[12] Barbara S. Cooper and Nancy L. Worthington, *op. cit.*

TABLE 8.—Blue Shield plans: Number of enrollees, benefit payments, and administrative costs under regular business and under Medicare, calendar year 1971

[In thousands, except for percentages]

State and plan	Enrollees under—			Benefit payments under—			Administrative costs under—		
	Regular business	Medicare		Regular business	Medicare		Regular business	Medicare	
		Number	Percent of regular business		Amount	Percent of regular business		Amount	Percent of regular business
Total	48,745	10,974	22 5	$1,860,747	$1,127,292	60 6	$233,910	$102,125	45 6
Alabama, Birmingham	1,136	315	27 7	[1] 120,570	24,241	20 1	6,051	1,800	29 7
Arkansas, Little Rock	484	225	46 5	[1] 35,832	15,355	42 9	2,827	1,477	52 3
California, San Francisco	1,139	724	63 6	[1] 114,290	134,738	117 9	21,682	15,752	72 6
Colorado, Denver	847	177	20 9	27,585	19,193	69 6	3,967	2,588	65 2
Delaware, Wilmington	375	42	11 2	11,744	3,062	26 1	1,216	375	30 8
District of Columbia, Washington [2]	1,312	146	4 6	83,574	18,206	21 8	9,707	1,879	19 4
Florida, Jacksonville	1,444	936	64 8	34,031	125,360	368 4	5,598	7,423	132 6
Illinois	2,649	469	17 7	64,043	49,584	77 4	9,415	5,071	53 9
Indiana, Indianapolis	1,846	459	24 9	67,011	31,762	47 4	6,273	2,723	43 4
Iowa, Des Moines	1,030	333	32 3	47,036	19,586	41 6	5,330	2,376	44 6
Kansas, Topeka	756	244	32 3	30,970	15,555	50 2	3,677	1,829	49 7
Maryland, Baltimore	1,283	272	21 2	41,387	14,870	35 9	4,504	1,654	36 7
Massachusetts, Boston	3,035	610	20 1	103,658	62,579	60 4	13,036	5,546	42 5
Michigan, Detroit	4,888	737	15 1	280,409	65,126	23 2	24,668	7,389	30 0
Minnesota, Minneapolis	609	214	35 1	34,774	10,440	30 0	6,773	1,267	18 7
Missouri	1,491	146	9 8	49,075	14,517	29 6	7,274	1,430	19 7
Montana, Helena	109	63	57.6	[1] 9,080	4,460	49 1	1,008	294	29 2
New Hampshire, Concord	551	125	22 7	16,907	9,154	54 1	2,591	995	38 4
New York	9,314	1,298	13 9	218,869	178,429	81 5	32,322	16,461	50.9
North Dakota, Fargo	287	64	22 4	10,933	4,903	44 8	1,663	541	32 5
Pennsylvania, Camp Hill	5,931	1,176	19 8	157,122	102,202	65 0	19,535	7,026	36 0
Rhode Island, Providence	701	102	14 6	20,179	10,269	50 9	2,074	779	37 5
South Carolina, Columbia	473	186	39 3	9,335	10,045	107 6	2,069	1,043	50 4
South Dakota, Sioux Falls	95	78	82 1	1,682	4,291	255 1	409	464	113 6
Texas, Dallas	2,806	955	34 1	36,290	103,936	286 4	5,894	6,934	117.7
Utah, Salt Lake City	317	70	22 2	14,508	5,469	37 7	1,640	431	26 3
Virginia	1,139	28	2 5	36,704			3,918		
Washington	696	309	44 4	[1] 73,802	28,054	38 0	7,320	3,290	44 9
Wisconsin	1,780	458	25 7	[1] 91,677	34,290	37 4	9,751	2,627	26 9
Puerto Rico	222	98	44 4	17,670	7,616	43 1	1,723	661	38.4

[1] Includes hospital plan
[2] Includes enrollees in covered Maryland and Virginia counties

Source Unpublished data of the Social Security Administration and *Blue Cross-Blue Shield Fact Book, 1972.*

For the 31 Blue Shield plans that are carriers under SMI, average Medicare enrollment coverage as a proportion of regular coverage is 22.5 percent. Medicare benefit payments as a proportion of regular benefit payments average 60.6 percent, but the plans vary considerably. The ratio for Jacksonville, Fla., for example, is 368.4 percent; in Birmingham, Ala., it is 20.1 percent. The average Medicare administrative expense as a percentage of regular administrative expense is 45.6 percent. This ratio is higher than the comparable figure for the Blue Cross intermediaries because the relationship between Blue Shield and SMI is not as great as that between Blue Cross and HI. Of the 13 commercial intermediaries and carriers for which data are available, only three companies had Medicare benefits that exceeded 50 percent of regular benefits in 1971 and all three were relatively small health insurers. As with the Blue Cross-Blue Shield plans, administrative costs of Medicare as a percentage of regular administrative costs varied substantially.

Comparisons of Medicare and regular business administrative costs and claims expenses on a per enrollee basis, as well as comparisons of administrative costs as a percent of claims expense under both types of business for Blue Cross intermediaries and Blue Shield carriers are shown in tables 10 and 11. Similar comparisons for the commercial intermediaries and carriers are not made because no data are available on their regular business enrollment. It would have been interesting to make comparisons by intermediary and by carrier of average claim size, but the data for that comparison for Blue Cross-Blue Shield and commercial regular business remain confidential. As in table 6, data for States with multiple intermediaries are presented on an aggragated statewide basis.

Table 10 reveals exceptions to the general pattern of higher administrative expenses on a per enrollee basis under Blue Cross regular business than under HI. The Blue Cross plan of Wilmington, Del., for example, spent $4.29 per Medicare enrollee in 1971 and $2.71 per regular

TABLE 9.—Commercial insurance companies: Claims payments, benefit payments, and administrative costs under regular business and under Medicare, calendar year 1971

[In thousands, except for percentages]

Insurance company	Claims payment under regular business	Benefit payments under Medicare				Administrative costs under regular business	Administrative costs under Medicare			
		Total		Hospital insurance	Supplementary medical insurance		Total		Hospital insurance	Supplementary medical insurance
		Amount	Percent of regular business				Amount	Percent of regular business		
Total	$5,311,854	$1,045,272	19 7	$411,019	$634,552	$868,791	$61,289	7 1	$8,482	$52,807
Aetna	977,336	211,547	21 6	151,758	59,789	115,709	8,003	6 9	2,636	5,367
Connecticut General	515,444	24,940	4 8	----	24,940	66,983	1,628	2 4	----	1,628
Continental Casualty	43,868	29,220	66 6	----	29,220	15,783	3,130	19 8	----	3,130
Equitable	560,471	37,612	6 7	----	37,612	77,528	3,380	4 4	----	3,380
General American	82,335	28,428	34 5	----	28,428	11,922	2,362	19 8	----	2,362
Metropolitan	768,584	43,114	5 6	----	43,114	138,449	5,406	3 9	----	5,406
Mutual of Omaha	354,288	65,418	18 5	52,511	12,907	129,945	2,946	2 3	1,784	1,162
Nationwide	31,076	87,525	281 6	21,940	65,584	8,234	6,222	75 6	342	5,880
Occidental	239,401	112,858	47 1	----	112,858	27,453	8,453	30 8	----	8,453
Pan American	21,908	20,250	92 4	----	20,250	5,602	1,773	31 6	----	1,773
Prudential	720,032	191,434	26 4	63,908	127,526	141,117	10,600	7 5	956	9,644
Travelers	889,346	186,460	21 0	120,902	65,558	109,879	6,612	6 0	2,764	3,848
Union Mutual	101,745	6,766	6 6	----	6,766	20,187	774	3 8	----	774

Source Unpublished Social Security Administration data and *1972 Argus Chart of Health Insurance.*

business enrollee. The Concord, N.H., plan spent $4.53 per Medicare enrollee and $3.48 per regular business enrollee. This situation is not typical, however; in only seven instances were Medicare administrative expenses higher than regular business expenses on a per enrollee basis.

Medicare benefit payments per enrollee, by contrast, are consistently higher than regular business claims expense. For the United States total, on a per enrollee basis, Medicare benefit payments are more than three times those of regular business claims payments. Administrative expense as a percent of Medicare benefits is consistently much lower than regular business administrative expense as a percent of claims expense because the average benefit payment under Medicare is much higher than that under regular business and because average regular business administrative expense is not much greater than average Medicare administrative expense.

A somewhat different pattern exists for the carriers (table 11). In general, both Medicare administrative expense and benefit payments per enrollee are higher than they are under regular business. For benefit payments, however, the difference between Medicare and regular business is not as great for the carriers as it is for the intermediaries. As a consequence, the ratio of administrative expenses to benefits paid under Medicare is not very different from the ratio under regular business.

It seems reasonable to hypothesize that a plan that is less efficient than other plans in handling its own business would be less efficient than others in its role as Medicare intermediary or carrier relative to other plans. Accordingly, operating costs as a percentage of operating costs plus claims costs (BLUECOST) was used here as an independent variable, and Medicare operating costs as a percentage of Medicare operating costs plus Medicare claims costs (MEDCOST) was used as the dependent variable for separate regression runs on the intermediaries and carriers. The results, contained in table 12, do not support the hypothesis, since the corrected $\bar{R}^2$ do not rise above .0001, and the equations are not statistically significant.[13] This lack of correlation, for Blue Cross, is due to the fact that the variance of BLUECOST (3.65) is 46 times greater than the variance of MEDCOST (.08); the corresponding coefficients of variation are .348 and .232, respectively.[14] It is not possible to know whether the Blue Cross-Blue Shield plans are more efficient with their regular business than with their Medi-

[13] This does not mean that one should accept the hypothesis that there is no relation between MEDCOST and BLUECOST. The regression equation tests the null hypothesis that there is no relation between MEDCOST and BLUECOST. A low $\bar{R}^2$ and an equation that has low statistical significance implies that one cannot with confidence reject the null hypothesis. At the same time, the data do not suport accepting it either—that is, the regression is not a proof of the null hypothesis.

[14] The coefficient of variation is the mean divided by the standard deviation. Its purpose is to standardize variation for different sized means.

care business because the two types of medical insurance are different. It is important, however, to note that a program, structured as Medicare, can lower rather significantly the variance of the administrative procedures of 65 different administrative units.

Table 13 ranks the intermediaries, using three different measures of administrative efficiency. When one searches for reasons why some intermediaries rank below the national average on the three measures, one sees that the commercial intermediaries fall below the average with greater frequency than the Blue Cross intermediaries. This difference is not coincidental, but it is not a measure of true relative efficiency. The commercial intermediaries deal relatively more extensively with extended-care facilities than do the Blue Cross intermediaries. Because the American Hospital Association (AHA) nominated Blue Cross as intermediary under Medicare and because most hospitals are members of the AHA and supported the nomination, Blue Cross became an intermediary for most hospitals. The commercial companies were nominated as intermediaries for some hospitals and many extended-care facilities.

In examining the relationship between unit costs and the percentage of bills that come from the extended-care facilities, one notes that as that percentage moves upward, unit costs increase commensurately. One reason administrative costs are higher for those firms dealing more extensively with the extended-care facilities is that the claims review effort is greater for extended-care facilities than it is for hospitals. Often, for extended-care facilities claims a determination must be made whether care given to the elderly by the facility is merely custodial or is

TABLE 10.—Blue Cross intermediaries: Benefit payments and administrative costs per enrollee and administrative costs as percent of benefit payments under regular business and under Medicare, calendar year 1971

State and plan	Benefit payments per enrollee		Administrative costs per enrollee		Administrative costs as percent of benefit payments	
	Regular business	Medicare	Regular business	Medicare	Regular business	Medicare
Total	$80.79	$265 65	$4 52	$3 06	5 6	1.2
Alaska [1]	[2] 103 70	218 02	5 20	1.53	5 0	.7
Arizona, Phoenix	83.77	29 02	5 87	3 22	7 0	1 0
Arkansas, Little Rock	[2] 72 41	196 29	5 71	1 67	7.9	8
California	117 47	306 92	9 41	3 87	8 0	1 3
Los Angeles	[2] 109 74		8 20		7.5	1.2
Oakland	[2] 111 58		9 68		8 7	1 4
Colorado, Denver	77 50	334 39	4 88	4 47	6 3	1 3
Connecticut, New Haven	84 02	223 12	3 73	1.49	4 4	.7
Delaware, Wilmington	76 24	272 39	2 71	4 29	3 6	.8
District of Columbia, Washington [3]	68 22	263 32	3 77	2 77	5 5	1.0
Florida, Jacksonville	59 30	248 49	3 65	2 50	6 2	1 0
Georgia	59 60	187.91	3 44	3 00	5 8	1.6
Atlanta	70 30		3 62		5 1	1.8
Columbus	49.57		3 29		6 6	1.5
Hawaii [4]						
Idaho, Boise	[2] 69 16	205 77	7 69	3 86	11 1	1 9
Illinois	99 27	314 80	5 68	3 16	5 7	1 0
Chicago	100 74		5 59		5 5	1 0
Rockford	[2] 62 55		7.84		12 5	1 0
Indiana, Indianapolis	78 56	243 42	6 61	3 63	8 4	1 5
Iowa	56 86	185 06	3 67	3 21	6 5	1 0
Des Moines	57 95		3 68		6 3	1 1
Sioux City	53 85		3 74		6 9	.9
Kansas, Topeka	67 42	207 59	4 88	2 61	7 2	1 3
Kentucky, Louisville	55 27	208 41	2 76	2 98	5 0	1 4
Louisiana	72 82	239 60	6 46	3 33	8.9	1 4
Baton Rouge	[2] 62 81		6 17		9 8	1 3
New Orleans	[2] 90 25		6 97		7.7	1 5
Maine, Portland	62 57	230 36	3 67	3 33	5 9	1 4
Maryland, Baltimore	89 28	247.42	3 66	2 82	4 1	1.1
Massachusetts, Boston	97.41	325 73	3 80	4 31	3 9	1.3
Michigan, Detroit	92 51	347 63	4 05	4 13	4 4	1.2
Minnesota, St. Paul	75 46	300 84	5 74	3 75	7.6	1.2
Mississippi, Jackson	[2] 76 33	210 43	6 71	2 50	8.8	1.2
Missouri	81 62	296 89	4 08	3 73	5 0	1.3
Kansas City	82 42		4 88		5 9	.8
St. Louis	81 31		3 74		4 6	1 5
Montana, Great Falls	[2] 88 02	249 65	9 51	2 81	10 8	1 2
Nebraska, Omaha	68 40	197 80	6 04	1 53	8 8	.8
Nevada [4]						
New Hampshire, Concord	60.11	251 13	3 48	4 53	5 8	1.8
New Jersey, Newark	74 35	182 58	3 17	1 74	4 3	1 0
New Mexico, Albuquerque	58 74	208 50	3 77	3 11	6 4	1.5

See footnotes at end of table.

TABLE 10.—Blue Cross intermediaries: Benefit payments and administrative costs per enrollee and administrative costs as percent of benefit payments under regular business and under Medicare, calendar year 1971—*Continued*

State and plan	Benefit payments per enrollee		Administrative costs per enrollee		Administrative costs as percent of benefit payments	
	Regular business	Medicare	Regular business	Medicare	Regular business	Medicare
New York	$67 73	$324 01	$3 97	$3 23	5 9	1 0
Albany	78 83		4 31		5 5	1 0
Buffalo	66 71		3 90		5 9	1 3
Jamestown	42 66		2 07		4 9	1 4
New York City	68 16		4 19		6 1	1 0
Rochester	67 19		2 91		4 3	1 2
Syracuse	63 36		2 81		4 4	.8
Utica	52 84		2 62		5 0	.9
Watertown	59 17		4 90		8 3	1 2
North Carolina, Chapel Hill-Durham	[2] 80 87	214 63	5 41	2 53	6 7	1 2
North Dakota, Fargo	73 78	301 67	4 51	3 14	6 1	1 0
Ohio	83 86	267 71	3 15	2 89	3 8	1 1
Canton	74 92		2 49		3 3	1 2
Cincinnati	82 52		3 34		4 1	1 2
Cleveland	93 92		3 73		4 0	1 1
Columbus	63 91		2 24		3 5	1 1
Lima	56 90		1 88		3 3	.9
Toledo	87 01		3 09		3 5	.8
Youngstown	96 03		2 61		2 7	.8
Oklahoma, Tulsa	71 29	236 30	3 89	3 03	5 5	1 3
Oregon, Portland	[3] 95 84	248 43	7 97	2 34	8 3	.9
Pennsylvania	77 99	205 10	3 36	2 47	4 3	1.2
Allentown	60 87		3 02		5 0	1.2
Harrisburg	65 73		2 95		4 5	1 2
Philadelphia	85 15		2 92		3 4	1 1
Pittsburgh	80 91		4 25		5 3	1 3
Wilkes-Barre	66 35		2 37		3 6	1 1
Rhode Island, Providence	75 18	323 07	2 87	4 16	3 8	1 3
South Carolina, Columbia	63 81	179 98	4 22	3 74	6 6	2 1
South Dakota [5]						
Tennessee	80 68	237 27	5 99	2 82	7 4	1 2
Chattanooga	[2] 77 19		5 42		7 0	1 1
Memphis	[2] 102 02		9 47		9 3	1 4
Texas, Dallas	[2] 104 41	267 87	6 53	2 55	6 3	1 0
Utah, Salt Lake City	61 21	202 57	3 91	3 75	6 4	1 9
Vermont [6]						
Virginia	69 45	192 40	3 74	2 62	5 4	1 4
Richmond	70 22		4 25		6 1	1 4
Roanoke	67 36		2 27		3 4	1 1
Washington, Seattle	[1] 89 97	193 99	10 50	2 16	11 0	1 1
West Virginia	79 80	222 14	3 12	3 26	3 9	1 5
Bluefield	15 38		10 39		5 3	
Charleston	75 69		3 30		4 4	1 0
Parkersburg	85 90		2 66		3 1	1 4
Wheeling	89 10		2 77		3 1	1 9
Wisconsin, Milwaukee	86 47	302 23	6 09	3 06	7 0	1 0
Wyoming, Cheyenne	44 31	215 55	3 35	3 29	7 6	1 6

[1] Served by Seattle, Washington plan.
[2] Includes surgical-medical plan
[3] Includes enrollees in covered Maryland and Virginia counties.
[4] No Blue Cross plan.
[5] Served by Iowa plan.
[6] Served by New Hampshire plan.

Source Unpublished Social Security Administration data and *Blue Cross-Blue Shield Fact Book, 1972*

care covered under Medicare. Medicare does not reimburse for the former. This determination of level and type of care has proved to be administratively expensive. Another reason why extended-care facility bills have been costly to process is the high percentage of bill errors, possibly due to the frequent changes in extended-care facility ownership and sometimes related to greater turnover of staff.

A similar ranking for Medicare carriers is seen in table 14. Unit cost and production per manyear are presented on both a payment record and per claim basis. According to the Bureau of Health Insurance, the primary reason that firms fall below the national average in at least two of the three measures of efficiency presented involves changes in electronic data-processing systems during the period considered.[15] As has been previously discussed, data processing is an important component of the SMI carriers' administrative costs. To the extent that some carriers have not yet adequately adopted an efficient electronic data-processing system or are not using it to its full capability, their administrative costs will be high relative to those of other carriers.

SUMMARY AND CONCLUSIONS

The current proposals for some form of national health insurance call for analysis of the costs of administering health insurance. This study shows

[15] The Bureau of Health Insurance monitors carrier data-processing systems and maintains an annual narrative account of carrier electronic data-processing progress.

TABLE 11.—Blue Shield carriers: Benefit payments and administrative costs per enrollee and administrative costs as percent of benefit payments under regular business and under Medicare, calendar year 1971

State and plan	Benefit payments per enrollee		Administrative costs per enrollee		Administrative costs as percent of benefit payments	
	Regular business	Medicare	Regular business	Medicare	Regular business	Medicare
Total	$38 17	$102 72	$4 80	$9 31	12 6	9 1
Alabama, Birmingham	[1] 106 14	76 96	5 33	5 71	5 0	7.4
Arkansas, Little Rock	[1] 74 03	68 24	5 84	6 56	7 9	9 6
California, San Francisco	[1] 100 34	186 10	19 04	21 76	19 0	11 7
Colorado, Denver	32 57	108 44	4 68	14 62	14 4	13 5
Delaware, Wilmington	31 32	72 90	3 24	8 93	10 4	12 2
District of Columbia, Washington [2]	63 70	124 70	7 40	12 07	11 6	10 3
Florida, Jacksonville	23 57	133 93	3 88	7 93	16 4	5 9
Illinois	24 18	105 72	3 55	10 81	14 7	10 2
Indiana, Indianapolis	36 30	69 20	3 40	5 93	9 4	8 6
Iowa, Des Moines	45 67	58 82	5 17	7.14	11 3	12.1
Kansas, Topeka	40 97	63 75	4 86	7 50	11 9	11 8
Maryland, Baltimore	32 26	54 67	3 51	6 08	10 9	11 1
Massachusetts, Boston	34 15	102 59	4 30	9 09	12 6	8 9
Michigan, Detroit	57 37	88 37	5 05	10 03	8 8	11 3
Minnesota, Minneapolis	57 10	48 79	11 12	5 92	19 5	12 1
Missouri	32 91	99 43	4 88	9 79	14 8	9 8
Montana, Helena	[1] 83 30	70 79	9 25	4 67	11 1	6 6
New Hampshire, Concord	30 68	73 23	4 70	7 96	15 3	10 9
New York	23 50	137 46	3 47	12 68	14 8	9 2
North Dakota, Fargo	38 09	76 61	5 79	8 45	15 2	11 0
Pennsylvania, Camp Hill	26 49	86 91	3 29	5 97	12 4	6 9
Rhode Island, Providence	28 79	100 68	2 96	7 64	10 3	7.6
South Carolina, Columbia	9 59	54 01	2 13	5 61	22 2	10 4
South Dakota, Sioux Falls	17 71	55 01	4 31	5 95	24 3	10 8
Texas, Dallas	12 93	108 83	2 10	7.26	16 2	6 7
Utah, Salt Lake City	45 77	78 13	5 17	6 16	11 3	7 9
Virginia	32 22		3 44		10 7	
Washington	106 04	90 79	10 52	10 65	9 9	11 7
Wisconsin	[1] 51 50	74 87	5 48	5 74	10 6	7.7
Puerto Rico	79 59	77.71	7 76	6 74	9 8	8 7

[1] Includes hospital plan.
[2] Includes enrollees in covered Maryland and Virginia counties.

Source Unpublished Social Security Administration data and *Blue Cross-Blue Shield Fact Book, 1972*.

that when administrative costs are expressed as a percentage of benefits paid or on a per enrollee basis, the supplementary medical insurance program has proved more expensive to administer than the HI program. In contrast, administrative costs per bill have been lower under SMI. This seeming paradox is resolved by recognizing that average benefits per bill paid under HI have been three times greater than those paid under SMI. The apparent paradox illustrates the hazards of making comparisons on a ratio basis without a careful analysis of underlying factors.

TABLE 12.—Regression equations for Blue Cross intermediaries and Blue Shield carriers for regular business and Medicare

Equation [1]	Dependent variable	Constant	BLUECOST	$\bar{R}^2$	S_y
1	MEDCOST [2] (65 observations)	1 146 (10 525)	015 (790)	0001	.286
2	MEDCOST (56 observations)	1 094 (7 394)	027 (934)	0001	289
3	MEDCOST (28 observations)	8 457 (6 521)	050 (466)	0001	1 701
4	MEDCOST (24 observations)	8 265 (6 265)	030 (260)	0001	1.682

[1] Equations 1 and 2 represent Blue Cross data; equations 3 and 4 represent Blue Shield data. All equations exclude the Blue Cross-Blue Shield merged plans, such as that of Birmingham, Ala. Equations 2 and 4 exclude Blue Cross-Blue Shield plans that offer medical hospital benefits. Blue Shield equations have fewer observations than Blue Cross equations because fewer Blue Shield plans serve as carriers under Medicare.
[2] T values in parentheses.

Between 1967 and 1973 benefit payments on a per enrollee basis have increased at a more rapid rate than administrative costs, and the most rapid increase in these two items occurred between 1967 and 1968. The large percentage increase between these 2 years reflects the considerable lag before bills were submitted and processed for reimbursement. Since then, the administrative system has had time to consolidate itself and rates of increase have been fairly constant. Using 1968 as a base, administrative costs per enrollee have increased at a more rapid rate than benefits per enrollee. This phenomenon is due to benefit lags in 1967 and increased expenditures for monitoring the program that simultaneously increased administrative costs and produced a consequent relative reduction in claims paid. Indeed, provider audit and claims review per bill have been the most rapidly growing administrative expenditures under the HI program. Such expenditures are designed to enhance overall program quality even though they increase administrative costs. Administrative costs per claim under SMI have

TABLE 13.—Selected data for HI intermediaries excluding audit, fiscal year 1972

Administrative expenses as percent of benefit payments		Unit cost [1]		Production per man-year bills	
National average [2]	1 25	National average [2]	$4.52	National average [2]	2,857
Kaiser	.30	Inter-County	2 41	Inter-County	4,493
Birmingham, Ala	76	Birmingham, Ala	2 55	Utica, N Y	4,318
New Haven, Conn	79	Utica, N Y	2 63	Little Rock, Ark	4,314
Omaha, Neb	80	Lima, Ohio	2 79	Birmingham, Ala	4,231
Syracuse, N Y	81	Charleston, W. Va	2 83	New Haven, Conn	4,092
Inter-County	81	Syracuse, N.Y	2 84	Lima, Ohio	4,023
Kansas City, Mo	.84	Omaha, Neb	2 99	Sioux City, Iowa	3,972
Chicago, Ill	92	Little Rock, Ark	3 11	Charleston, W. Va	3,945
Lima, Ohio	93	Harrisburg, Pa	3 20	Omaha, Neb	3,932
Youngstown, Ohio	94	New Haven, Conn	3 31	Baltimore, Md	3,894
Utica, N.Y	95	Roanoke, Va	3 33	Rochester, N Y	3,822
Sioux City, Iowa	96	Kansas City, Mo	3 34	Syracuse, N Y	3,798
Dallas, Texas	98	Watertown, N.Y	3 36	Portland, Oreg	3,752
Little Rock, Ark	1 00	Wilkes-Barre, Pa	3 36	Albany, N Y	3,751
New York, N.Y	1 00	Jackson, Miss	3 38	Philadelphia, Pa	3,709
Toledo, Ohio	1 00	Pittsburgh, Pa	3 42	Dallas, Texas	3,683
Portland, Oreg	1 02	Sioux City, Iowa	3 43	Toledo, Ohio	3,640
Jacksonville, Fla	1 02	Parkersburg, W. Va	3 44	Boise, Idaho	3,626
Albany, N Y	1 03	Allentown, Pa	3 48	Youngstown, Ohio	3,608
Newark, N J	1 06	Youngstown, Ohio	3 48	Harrisburg, Pa	3,588
Columbus, Ohio	1 07	Chattanooga, Tenn	3 53	Chapel Hill, N C	3,561
Milwaukee, Wis	1 07	Albany, N Y	3 57	Providence, R I	3,553
Phoenix, Ariz	1 07	Columbus, Ga	3 63	Kaiser	3,528
Chattanooga, Tenn	1.08	Toledo, Ohio	3,66	Pittsburgh, Pa	3,512
Philadelphia, Pa	1 08	Baltimore, Md	3 67	Parkersburg, W. Va	3,479
Jackson, Miss	1 12	Kaiser	3 68	Chicago, Ill	3,474
Washington, D C	1 12	Portland, Oreg	3,68	Columbus, Ga	3,464
Roanoke, Va	1 14	Chapel Hill, N.C	3 71	Chattanooga, Tenn	3,389
Rockford, Ill	1 14	Rockford, Ill	3 72	Jackson, Miss	3,381
Fargo, N Dak	1 15	Portland, Maine	3 76	Seattle, Wash	3,380
Watertown, N.Y	1 15	Columbus, Ohio	3 85	Rockford, Ill	3,328
Cleveland, Oh o	1 17	Cooperativa	3 86	Baton Rouge, La	3,290
Allentown, Pa	1 19	Louisville, Ky	3 93	Washington, D C	2,197
Des Moines, Iowa	1 19	Baton Rouge, La	3,98	Allentown, Pa	3,195
Baltimore, Md	1 19	Philadelphia, Pa	3 98	Milwaukee, Wis	3,195
Harrisburg, Pa	1 20	Jacksonville, Fla	3 99	St. Paul, Minn	3,195
Seattle, Wash	1 20	Milwaukee, Wis	4 00	San Juan, P.R	3,193
Canton, Ohio	1 22	Rochester, N.Y	4 01	Columbus, Ohio	3,141
Denver, Colo	1 23	Dallas, Texas	4 02	Atlanta, Ga	3,134
St Paul, Minn	1 24	Hawaii Medical	4 03	Roanoke, Va	3,134
Wilkes-Barre, Pa	1 24	Des Moines, Iowa	4 05	Louisville, Ky	3,092
Chapel Hill, N.C	1 25	Canton, Ohio	4 07	Canton, Ohio	3,092
Los Angeles, Calif	1.25	Providence, R I	4 09	Wilmington, Del	3,076
Rochester, N.Y	1 26	Chicago, Ill	4 11	Richmond, Va	3,057
Providence, R.I	1 27	Boise, Idaho	4 13	Wilkes-Barre, Pa	3,050
Charleston, W. Va	1 29	Seattle, Wash	4 23	Cleveland, Ohio	2,994
Hawaii Medical	1 29	Buffalo, N.Y	4 30	Boston, Mass	2,993
Pittsburgh, Pa	1 29	Phoenix, Ariz	4 36	Phoenix, Ariz	2,993
Richmond, Va	1 29	Great Falls, Mont	4 38	Jacksonville, Fla	2,988
Parkersburg, W. Va	1 30	San Juan, P. R	4 41	Des Moines, Iowa	2,975
Boston, Mass	1 32	Topeka, Kan	4 47	Kansas City, Mo	2,969
Buffalo, N Y	1 32	Fargo, N D	4 47	Watertown, N.Y	2,896
Cincinnati, Ohio	1.33	Richmond, Va	4 48	Newark, N J	2,873
Detroit, Mich	1 35	Wilmington, Del	4 50	Buffalo, N Y	2,866
Topeka, Kans	1 35	St. Louis, Mo	4 56	Portland, Maine	2,802
Great Falls, Mont	1 36	Denver, Colo	4 59	Cheyenne, Wyo	2,780
Tulsa, Okla	1 38	Newark, N J	4 60	Wheeling, W Va	2,727
Memphis, Tenn	1 40	Prudential	4 61	Cincinnati, Ohio	2,713
Jamestown, N.Y	1 42	Cleveland, Ohio	4 63	St. Louis, Mo	2,688
Baton Rouge, La	1 43	St. Paul, Minn	4 63	Great Falls, Mont	2,676
Louisville, Ky	1 46	Cheyenne, Wyo	4 64	Topeka, Kan	2,663
Prudential	1 50	Jamestown, N.Y	4 73	Detroit, Mich	2,649
St Louis, Mo	1 50	New Orleans, La	4 73	Fargo, N Dak	2,646
Albuquerque, N. Mex	1 52	Memphis, Tenn	4 76	Oakland, Calif	2,644
Oakland, Calif	1 52	Atlanta, Ga	4 77	Indianapolis, Ind	2,599
Cooperativa	1 53	Nationwide	4 80	Memphis, Tenn	2,583
Columbus, Ga	1 54	Concord, N.H	4 81	Albuquerque, N. Mex	2,533
Portland, Maine	1 54	Boston, Mass	4 87	Denver, Colo	2,478
New Orleans, La	1 58	Washington, D C	4 87	Jamestown, N.Y	2,468
Indianapolis, Ind	1 59	Albuquerque, N. Mex	4 90	Prudential	2,434
Cheyenne, Wyo	1 61	Wheeling, W. Va	4 91	Cooperativa	2,404
Nationwide	1 70	Detroit, Mich	5 03	Hawaii Medical	2,400
Wilmington, Del	1 72	Cincinnati, Ohio	5 04	Nationwide	2,399
Aetna	1 72	Columbia, S C	5 12	Los Angeles, Calif	2,357
Atlanta, Ga	1 85	Indianapolis, Ind	5 23	Concord, N.H	2,335
Boise, Idaho	1 85	Oakland, Calif	5 32	Salt Lake City, Utah	2,263
Wheeling, W. Va	1 92	Tulsa, Okla	5 55	Tulsa, Okla	2,211
Concord, N.H	1 97	Salt Lake City, Utah	5 68	New Orleans, La	2,174
Salt Lake City, Utah	2 15	Los Angeles, Calif	5 74	New York, N.Y	2,154
Columbia, S C	2 18	New York, N Y	5 92	Aetna	2,105
Travelers	2 31	Aetna [3]	7 06	Columbia, S C	2,082
San Juan, P.R	2 60	Travelers	8 85	Mutual of Omaha	1,340
Mutual of Omaha	3 63	Mutual of Omaha	9 21	Travelers	1,310

[1] All Blue Cross plan indices adjusted for Blue Cross Association overhead factors

[2] Weighted national average.

[3] Administrative costs include nonrecurring costs related to developing electronic data-processing systems for SSA. The adjusted figures are: administrative costs (excluding audit), $2,226,490, unit cost per bill, $5 61; and work load related unit cost $5 11.

Source. Unpublished Social Security Administration data.

TABLE 14.—Selected data for SMI carriers, fiscal year 1972

Administrative expenses as percent of benefit payments		Unit cost			Production per man-year bills		
			Payment record	*Claim*		*Payment record*	*Claim*
National average	8 77	National average	$3 93	$3 18	National average	2,905	3,590
Jacksonville, Fla	5 83	Providence, R I	2 23	1 57	Providence, R I	5,339	7,591
Madison, Wis	6 38	Madison, Wis	2 85	2 07	Dallas, Tex	[3] 4,129	5,331
Connecticut General	6 52	San Juan, P.R	3 00	2 86	Madison, Wis	4,065	5,582
Camp Hill, Pa	6 77	Connecticut General	3 03	2 68	Rochester, N.Y	3,997	4,628
Dallas, Tex	6 89	Camp Hill, Pa	3 07	2.77	Camp Hill, Pa	[3] 3,909	4,332
Prudential	7 16	Jacksonville, Fla	3 09	3 01	Boston, Mass	[3] 3,753	4,830
Occidental	7 21	Dallas, Tex	3 11	2 41	Group Health Inc	3,600	4,414
Providence, R.I	7 37	Birmingham, Ala	3 28	2 28	San Francisco, Calif	[3] 3,486	4,465
Birmingham, Ala	7 40	Prudential	3 35	2 81	Prudential	3,121	3,720
Railroad Retirement Board	7 79	Nationwide	3 59	3 00	Jacksonville, Fla	3,110	3,199
General American	8 02	Concord, N.H	3 59	2 33	San Juan, P R	[3] 3,073	3,219
Mutual of Omaha	8 03	General American	3 62	2 82	Nationwide	3,049	3,649
Salt Lake City, Utah	8 27	Boston, Mass	3 64	2 83	Concord, N.H	2,990	4,611
Pan American	8 48	R R B	3 67	3 12	Connecticut General	2,968	3,353
Rochester, N Y	8 51	Columbia, S C	3 82	2 77	Salt Lake City, Utah	2,953	3,830
Ind'anapolis, Ind	8 60	Pan American	3 88	2 68	Indianapolis, Ind	[3] 2,949	3,670
New York, N.Y	8 76	Rochester, N.Y	3 88	3 35	Birmingham, Ala	2,944	4,240
Nationwide	9 10	Indianapolis, Ind	3 95	3 17	New York, N Y	[3] 2,890	3,597
Boston, Mass	9 25	San Francisco, Calif	4 06	3 17	Detroit, Mich	[3] 2,884	3,669
Equitable	9 29	Occidental	4 10	3 64	R.R B	2,850	3,352
Chicago, Ill	9 33	Detroit, Mich	4 12	3 24	Aetna	2,827	3,132
Washington, D.C	9 34	Seattle, Wash	4 13	3 13	Wilmington, Del	2,805	3,820
Aetna	9 40	Aetna	4 15	3 75	Columbia, S C	2,766	3,814
San Juan, P.R	9 40	Helena, Mont	4 23	2 98	Pan American	2,751	3,983
Travelers	9 45	Equitable	4 25	3 13	General American	2,741	3,521
Columbia, S C	9 81	Little Rock, Ark	4 26	3 04	Seattle, Wash	2,726	3,596
Group Health Inc	9 90	Salt Lake City, Utah	4 29	3 31	Little Rock, Ark	[3] 2,687	3,771
Kansas City, Mo	10 08	New York, N Y	4 30	3 46	Baltimore, Md	2,675	3,421
Buffalo, N.Y	10 08	Wilmington, Del	4 37	3 21	Washington, D.C	2,656	3,108
Continental Casualty	10 22	Union Mutual	4 38	3 08	Fargo, N. Dak	2,611	3,333
Little Rock, Ark	10 50	Group Health Inc [2]	4 38	3 57	Metropolitan	2,443	2,975
Helena, Mont	10 51	Baltimore, Md	4 39	3 43	Equitable	[3] 2,436	3,302
Milwaukee, Wis	10 57	Mutual of Omaha	4 46	3 56	Occidental	[3] 2,407	2,712
Sioux Falls, S Dak	10 87	Fargo, N Dak	4 52	3 54	St Paul, Minn	[3] 2,389	3,299
Union Mutual	11 00	Milwaukee, Wis	4 53	3 58	Mutual of Omaha	2,381	2,988
Baltimore, Md	11 04	Denver, Colo	4 54	3 33	Helena, Mont	2,338	3,320
San Francisco, Calif	11 18	Oklahoma I S R S	4 73	3 23	Sioux Falls, S Dak	[3] 2,329	3,020
Concord, N.H	11 25	Buffalo, N Y	4 73	3 50	Denver, Colo	[3] 2,309	3,146
Fargo, N Dak	11 34	Metropolitan	4 75	3 90	Topeka, Kans	[3] 2,302	3,359
Detroit, Mich	11 53	Topeka, Kans	4 77	3 27	Oklahoma I S R S	2,279	3,338
Seattle, Wash	11 55	Washington, D C	4 93	4 21	Milwaukee, Wis	2,266	2,864
Metropolitan	11 56	Continental Casualty	5 08	4 45	Union Mutual	2,253	3,199
St Paul, Minn	11 76	Travelers	5 09	3 99	Buffalo, N Y	2,235	3,018
Wilmington, Del	11 80	Sioux Falls, S Dak	5 09	3 92	Chicago, Ill	[3] 2,178	2,629
Des Moines, Iowa	11 96	Kansas City, Mo	5 10	4 11	Des Moines, Iowa	[3] 2,125	3,094
Topeka, Kans	12 04	St Paul, Minn	5 25	3 81	Continental Casualty	2,120	2,420
Denver, Colo	12 93	Des Moines, Iowa	5 36	3 68	Travelers	[3] 2,008	2,559
Oklahoma I.S R S	15 10	Chicago, Ill	5 70	4 72	Kansas City, Mo	1,946	2,418

[1] Weighted national average.
[2] Includes nonrecurring costs.
[3] Productivity adjusted to include a manpower equivalent for data-processing costs included without breakouts of manpower or personal services.
Source: Unpublished Social Security Administration data.

remained relatively stable, despite increased labor costs, because SMI bills more easily lend themselves to electronic data processing and because provider audits and claims review are not required under the SMI program.

Medicare business accounts for a significant percentage of intermediary and carrier business, especially for Blue Cross and Blue Shield. It was hypothesized that intermediaries and carriers who were inefficient in their regular business, in relation to other intermediaries and carriers, would be inefficient in their Medicare business. Regression analysis does not support that hypothesis. Of interest, however, is the finding that the variance in Medicare administrative costs is .08 compared with the variance in regular business administrative costs of 3.65, or 46 times greater. Although some of this difference may result from variations in product mix, this finding illustrates how a uniform program such as Medicare can reduce the variance in the administrative costs of these diverse administrative units. The single most important reason for high intermediary costs, involves the mix of providers served: if a high proportion of bills come from extended-care facilities, unit administrative cost will be high. The most important cause of high carrier administrative costs relates to the stage of development of electronic data-processing systems. Those carriers who have not yet developed their electronic data-processing systems sufficiently, or who do not have adequate volume to use the system efficiently, have high unit administrative costs.