The economics of information exchange: Medicaid in Wisconsin

by Ralph Andreano, Eugene Smolensky, and Thomas Helminiak

In Medicaid, as in all third-party insurance, there are significant costs for information exchange between providers of services and the State (or other insurer), which reimburses those providers. On the basis of a study of Medicaid in Wisconsin, this article indicates that appreciable costs are incurred owing to deficiencies in information exchange between these parties. It is proposed that the costs of automated interventions, which could improve information exchange, be compared with the existing costs of the present system of information exchange.

Introduction

This study grew out of one of the author's long interest in, and experience with, administration of Wisconsin's Medicaid program. It seemed that Medicaid and, to a greater extent, all third-party health insurance contained such discontinuities in information receipt and transmittal that the system must be generating costs to some and conferring benefits to others. We thought, as did others familiar with Medicaid, that Medicaid was costly to administer because it has a rapid turnover of eligibles and a complex set of benefits and payment policies; its dependence on the exchange of paper documents seemed to make matters worse. Our intuitive view, therefore, was that further automating the Medicaid system would surely reduce administrative costs and smooth the discontinuities of information exchange among all the key actors. The costs of information exchange found in Medicaid could, we felt, also be indicative of what might be found in other insurance programs. By focusing on Medicaid in Wisconsin (which we describe as a "best practice" State), we would be able to make some generalizations applicable to all Medicaid programs.

Information exchange: Providers and administrators

This study concerns the benefits and costs of information exchange between providers of services and payers of services. After considering a broad range of information exchange relating to Medicaid, including exchanges between various government agencies associated with Medicaid (the State legislature, administrative bureaus, and the fiscal agent), as well as State-recipient communications, we decided to focus on information exchange between the State administrators and the health care providers. A preliminary review suggested that the State-provider nexus constituted the area of greatest volume of information exchange, with perhaps the greatest national applicability. Because information exchange between service providers and payers is not perfect or simultaneous, costs and benefits are generated by the transfers. The counterfactual that guided this study was the following: What are the costs and benefits of deficient information, weighed against what those costs and benefits would be if information exchange were "perfect"? Of equal interest was the following: What automation would displace what costs, pushing these costs closer to what they would have been if information exchange were perfect?

Costs resulting from imperfect information may represent any of three situations:

- Some parties may bear unintended costs, while other parties obtain associated unintended benefits.
- Costs may be shifted from one party to another.
- There may be net (dead weight) costs to the system as a whole.

For example, because of information imperfections, providers may render services that they mistakenly expect will be reimbursed by Medicaid. Had a situation of perfect information exchange existed, would the providers still have rendered the services, and would the services then be reimbursed by Medicaid? Perfect information exchange might either cause providers to recognize the impossibility of receiving payment for a service rendered, or it might allow them to understand how to obtain Medicaid reimbursement: by following certain procedures or supplying certain information required for reimbursement. In the former case (reimbursement not possible), the provider must decide whether he or she is nevertheless willing to render the service without reimbursement. If the counterfactual of perfect information exchange means that the service is not given, then, under imperfect information exchange, we find the generation of an unintended benefit (to the services recipient) and an unintended cost (to the nonreimbursed provider). Alternatively, if the counterfactual of perfect information exchange would allow the provider to render the service and to be reimbursed by Medicaid, then under imperfect information exchange there is a cost transfer from the State (which avoids reimbursing the provider) to the provider (who loses reimbursement). Finally, regardless of which counterfactual applies, we expect to find net system costs reflecting imperfect information exchange between the administrative efforts of the provider in (unsuccessfully) attempting to obtain reimbursement and the administrative efforts of the State in processing the (ultimately rejected) provider reimbursement requests.

Reprint requests: Ralph Andreano, Ph.D., Institute for Research on Poverty, University of Wisconsin, Social Science Building, 1180 Observatory Drive, Madison, Wisconsin 53706.

Thus, automated system interventions, designed to produce more perfect information exchange, may result in the following:

- Reduction of the incidence of unintended costs and benefits to parties receiving them.
- Alteration of the current pattern of cost-shifting.
- Reduction of the net deficient information costs in the system.

To assess the viability of a potential intervention that would improve information exchange, we need to know both the reduction in the magnitude of the costs of imperfect information exchange and the altered pattern of costs and benefits within the system. The decision to implement such an intervention and the operating costs of such an intervention will undoubtedly involve perceptions of shifted costs and benefits. We offer some estimates of the overall magnitude of reduced imperfect information exchange costs in Medicaid, and tentatively explore the division of the costs among the system's separate categories and parties.

We designated five information functions, separate areas of information exchange, from start of service to receipt of payment by the provider: (1) recipient certification; (2) program benefits policy; (3) providers' claims for reimbursement; (4) claims status advice; (5) payment to providers. We roughly organized our cost estimates according to these functions, and within each we distinguished "operating costs" and "costs resulting from deficient information." Although there is some arbitrariness in this classification, the principle is that operating costs are those associated with the information exchange officially prescribed by Medicaid policy; deficient information costs are those incurred because the official information exchange is imperfect (or not ideal). We give cursory attention to the operating costs within the five functions; instead, we emphasize the deficient information costs, because we presume that intervention technologies will offer benefits by reducing the deficient information costs rather than the operating costs. (As we shall see, the operating costs are, for the most part, quite small compared with the deficient information costs.)

Recipient certification

This information function refers to transfer of the information concerning services reimbursement from the recipient certification file (as maintained by the State or its fiscal agent) to providers of Medicaid services. This information concerns whether or not the recipient has basic eligibility for benefits, status of the recipient regarding the range of benefits that may be reimbursed, specific limitations on providers or services for a specific recipient, and the existence of other insurance coverage that must be billed before billing Medicaid.

In Wisconsin, as in most other States, the primary process for transmitting this information involves the production by the State of a paper Medicaid identification (ID) card. In Wisconsin (also as in most other States), the paper ID cards are printed monthly and mailed, near the end of the previous month, to all recipients granted eligibility for the next month. Thus, both continuing and new recipients receive a card every month that extends eligibility only through the next month. Providers of services have the responsibility of checking the recipients' cards on each visit to ascertain current eligibility as well as other information derived from the recipient certification file.

States differ in the amount of basic eligibility information that providers are required to obtain from the cards and enter on their claims for services reimbursement. Some States (including Wisconsin) require that the recipient's name be accurately copied, with correct spelling, in addition to the correct ID number, and that his or her sex and date of birth also be entered correctly. Some States only require that the correct ID number be entered on the claim. Normal operating costs of this system include the costs of the monthly production and mailing of the ID cards.

Problems with this system mostly derive from the fact that providers often fail to check the recipient ID card when services are rendered (because the recipient is not carrying the card, or the provider neglects to ask for it), or providers fail to transcribe accurately required information from the card. When this happens, providers may suffer losses because their claims for reimbursement are denied. (Where the problem is one of correct transcription of information onto the claim [or a procedural problem such as other insurance billing], reimbursement may be obtained on a subsequent resubmission of the claim.) Providers may attempt to verify required information by getting in touch with the recipient (after providing the service) or by phoning or writing one of the agencies with access to the recipient certification file. This adds administrative costs for both the providers and the contacted agencies. The provider also experiences costs when payment on claims is delayed, owing to problems concerning recipient certification; this causes staff resources to be employed for the completion of rejected claims.

The State experiences losses related to the costs of processing these rejected claims. It is also likely to suffer some losses as a result of the guarantee to providers that eligibility of a recipient will be treated as valid through the end date (normally end of the month) indicated on an ID card. In some cases (apparently relatively few in Wisconsin but more in some other States), after the ID card granting eligibility for the month has already been sent to recipients, certifying agencies determine that eligibility should not have been granted for that month. In these instances, according to what in Wisconsin is known as the "good faith" policy, providers continue to be reimbursed for services rendered during the eligibility period indicated on the card. Reimbursement for these services represents an additional cost to the States.

Program benefits

This information function, defined as information exchange from the State to Medicaid providers, concerns what services are reimbursable (including limitations and conditions for such reimbursement). The formal process involves printing and mailing provider handbooks (often differentiated for different groups of service providers and updated at various times by corrected handbook page inserts), provider bulletins, and letters to providers. In addition to learning about benefits policy, providers need to understand required billing policy, the rules governing the completion and submission of claims for reimbursement of rendered services. Although the information transfer process is rather similar for both benefits policy and billing policy, we have diverted discussion of the "problem costs" of billing policy into the third information function, providers' claims for reimbursement, discussed next; this was done because we presume that automated procedures for claims submission may be edited somewhat more readily for errors in billing policy than in benefits policy.[1]

Providers frequently provide services for which they anticipate Medicaid reimbursement, but which are not covered under the program and for which they consequently may not be reimbursed. Provider and State resources may also be expended when providers seek policy clarification by phoning or writing the State Medicaid agency. Further provider costs result from the delayed payment of claims that present benefits policy problems and the administrative expense of completing and submitting claims rejected for reasons of benefits policy. The State also bears the cost of processing these rejected claims. Potentially, there might be costs related to delays in notification of policy change resulting from printing and mailing lags. We judged these costs inconsiderable, at least for Wisconsin.

Providers' claims for reimbursement

To obtain reimbursement for services to Medicaid recipients, providers need to submit claims to the State Medicaid agency or its contracting fiscal agent. The claims must be submitted under prescribed formats (differing among various groups of services) and must follow various billing policy regulations. In most States, claims are predominantly submitted on paper, though most also accept claims on magnetic media (tapes or disks). In a few States, some claims are electronically submitted by the providers. Another possibility, in limited operation now, is for claims submitted on paper forms to be read by optical character scanners, reducing the data entry efforts of the claims-processing agent.

In the case of paper forms, operating costs of the present system include the production and mailing of the forms by the State, the completion and mailing of the forms by providers, and the entry of the claim-form data into the processing system. We excluded the operating costs of this system, from completed data entry to claims adjudication, because that operation is already highly automated. For magnetic media claims, operating costs are the claims completion and mailing costs.

Problem costs include provider losses of reimbursement for services when claims are rejected owing to filing policy problems. State and provider efforts related to attempts by providers to clarify filing policy by phone or written correspondence are another cost. In addition (as for the two preceding information functions), providers have costs owing to delayed reimbursement (as a result of filing problems) and administrative costs of filing claims rejected for these reasons. Again, the State faces the cost of processing these rejected claims.

Besides the delayed payment lags suffered by providers because of a provider error (related to either recipient certification, benefits policy, or claims filing policy), providers endure interest losses because of general submission lags (the time between the date of service [DOS] and the date the submitted claim is received by the fiscal agent) and processing lags (the time between claim receipt by the fiscal agent and adjudication). Compared with an ideal world, for the provider, in which payment is received immediately upon rendering services, these lags represent provider costs. (And they represent corresponding savings to the State.)

Claims status advice

The claims-processing agent issues statements to providers describing the adjudication status of their submitted claims. Printed and mailed to providers, these statements generally identify whether claims have been paid (indicating reason for payment cutback, if any), denied (indicating the reason for denial), or are still pending in the system. Normal operating costs include the printing and mailing costs of these claims status statements.

Problem costs of the present system include State and provider expenditures related to provider inquiries about claims status. Another cost involves the submission of duplicate claims by providers who ignore the fact that the claim either was previously paid or is still pending in the processing system. Duplicate claims submission entails both additional provider administrative cost (for submitting the duplicate claims) and additional State costs (for processing the duplicate claim submissions).

[1]There is some blurring of this division in our actual cost estimations, however. Provider handbooks contain rules for both benefits policy and billing policy, but we have not attempted to separate these two sets of rules; both are included under the operating costs of the program benefits policy function.

Payment to providers

Provider payment for claims that are favorably adjudicated is effected completely in Wisconsin (and predominantly in most other States) by checks sent to providers through the mail. In Wisconsin, the lag between adjudication and payment involves the ordering and completion of the "checkwrite," the merging of the checks with the claims status advice statements, the mailing of checks to providers, and providers' depositing of the checks. (In some States, there is also a delay while the State reviews the proposed payment amounts to providers and the comptroller decides whether or not to release State funds from which the provider checks are drawn.)

The normal operating costs of this system are the printing and mailing costs of the provider checks. Compared with an ideal world, where provider payment is effected immediately upon favorable adjudication (or comptroller authorization of funds), such as might be obtained from electronic funds transfer, providers lose the interest value of the payment delay (and the State gains it).

Cost computations for Wisconsin Medicaid

Many of our cost estimates required obtaining information on losses related to claim rejections. The specific statistics we required were not available from routinely generated reports, nor could special reports be readily produced within our time and expenditure limitations. Consequently, a major effort of our study involved the generation of these statistics from a sample of several hundred rejected claims. We particularly sought estimates of the following:

- The annual volume and dollar amount of unique (not double-counted as a result of multiple submissions and multiple rejections) rejected claims.
- The percentage of the unique claim rejections that are ultimately paid on resubmission versus the percentage of those that are never paid.
- The appropriate valuation of the never-paid claims, in terms of the probable pricing cutback in these claims, had they been paid.
- The mean payment delay days for claims rejected one or more times, but ultimately paid.

To obtain these estimates, we tracked a stratified (by provider type) random selection of 371 claim rejections (337 full claim rejections, that is, all of one or more service billings on a single claim submission, and 34 partial rejections of multiple detail claims) through resubmission and readjudication experience. (A subsequent check confirmed the randomness of the sample.) These rejections include both what Wisconsin designates as claim "denials" and claim "returns." (The latter reflect detected claim errors or omissions at the entry stage of the adjudication process.)

Because Wisconsin has a 1-year submission deadline, the rejection sample was tracked over a 1-year period (actually 13 months) from date of service, during 1983–84, to identify possible resubmissions resulting in either further rejections or payments of the claims. For the tracking procedure, we employed on-line inquiry screens, microfiche records of claim adjudication advice statements supplied to providers, and computer-generated recipient claim histories. Claim rejection reasons (numbering about 500) were classified as denials and returns. Denials were further divided into the following categories:

- Recipient certification: missing or correctable information; recipient ineligible; primary provider violation; and bill other insurance carrier.
- Provider certification: missing or correctable information and other violation.
- Benefits policy: no benefit (general, no benefit for medical status, or conditions not met); limitations exceeded; not medically necessary; invalid criteria relationships; requires prior authorization (PA) always; requires PA beyond limits; PA conditions violated; late billing; and not separately or additionally payable.
- Missing or invalid claim data: general and PA number.
- Duplicate claim.

Returns were further divided into the following categories:

- Recipient certification: missing or correctable information.
- Provider certification: missing or correctable information.
- Missing or invalid claim data: general and PA number.

The estimated sample statistics were subsequently applied to the universe of all claim rejections (for calendar year 1983); the total quantity and dollar volume of these rejections were known from routinely produced Medicaid reports.

Our estimate of the costs of deficient information and operating costs are shown in Table 1. The following narrative provides some detail for each of the five areas of information exchange.

Recipient certification

Operating costs

The production cost of about 230,000 recipient ID cards printed each month is $77,500 per year. The annual mailing cost for these cards is $510,600. These and other operating cost data given in later sections were predominantly supplied by State sources (including State administrative agencies and fiscal agent) with some interpretational adjustments by us.

Table 1

Operating and deficient information costs, by information function: Calendar year 1983

Information function	Operating costs		Deficient information costs	
	State	Providers	State	Providers
	Estimated annual cost in thousands			
Total	$2,589.9	$407.3	$2,629.1	$72,476.3
Recipient certification				
Total	588.1	—	1,845.9	30,124.2
ID card production	77.5	—	—	—
ID card mailing	510.6	—	—	—
Reimbursement following eligibility termination	—	—	871.8	—
Request for verification of recipient certification	—	—	483.6	[1]643.0
Provider reimbursement loss	—	—	—	28,834.6
Delayed payment because of certification error	—	—	—	194.1
Processing of claim rejections	—	—	490.5	—
Submission of claims rejected	—	—	—	452.5
Program benefits policy				
Total	82.2	—	224.2	16,863.3
Provider handbooks	43.4	—	—	—
Provider bulletins	38.8	—	—	—
Policy change notification delays	—	—	—	—
Provider requests for policy clarification	—	—	45.8	49.1
Provider reimbursement loss	—	—	—	16,465.2
Delayed payment because of benefits policy error	—	—	—	194.8
Processing of claim rejections	—	—	178.4	—
Submission of claims rejected	—	—	—	154.2
Providers' claims for reimbursement				
Total	1,398.3	407.3	405.3	24,394.9
Forms production and mailing	296.7	—	—	—
Data entry	1,098.0	—	—	—
Postage for submitted claims	3.6	407.3	—	—
Providers' requests for filing policy clarification	—	—	198.5	128.1
Providers' reimbursement loss	—	—	—	12,852.6
Delayed payment because of filing error	—	—	—	333.3
General delayed payment lags:				
Billing	—	—	—	8,267.7
Processing	—	—	—	2,589.0
Processing of claim rejections	—	—	206.8	—
Submission of claims rejected	—	—	—	224.2
Claims status advice				
Total	439.0	—	153.7	71.7
Remittance advice:				
Printing	43.8	—	—	—
Mailing	395.2	—	—	—
Provider queries concerning claims status	—	—	15.4	9.9
Processing of duplicate claim rejections	—	—	138.3	—
Submission of claims rejected as duplicate	—	—	—	61.8
Payment to providers				
Total	82.3	—	—	1,022.2
Checks:				
Printing	8.2	—	—	—
Mailing	74.1	—	—	—
Payment transmittal lag	—	—	—	1,022.2

[1]The estimate of provider costs for verification of recipient certification excludes provider costs of getting in touch with recipients, which are believed to be considerable.

SOURCES: Data are estimated from State of Wisconsin Medicaid Management Administrative Reporting Subsystem reports; samplings of Medicaid claims histories; and interviews with Medicaid providers, staffs of recipient certification agencies, and State of Wisconsin Medicaid administrative staff.

Deficient information costs

Reimbursement following eligibility termination

We seek to estimate here the cost of reimbursed services delivered to recipients after the fiscal agent (which maintains the recipient certification file in Wisconsin) has received advice from the certifying agency that eligibility should have been canceled for that month. Provider reimbursement is made according to a "good faith" policy which acknowledges the full-month validity of the present paper Medical Assistance (MA) cards. Based on very restricted sample information, we estimated a monthly average of 1,668 late terminations of eligibility, granting a mean additional 21.43 days of eligibility for recipients whose mean monthly Medicaid expenditure per eligible was $61.83. Consequently, the cost of late terminations under the present system is an estimated $871,845 per year. Thus, a system giving providers daily updates on recipient certification might include such late eligibility termination costs among its benefits.

Verification of recipient certification

In Wisconsin, the possible sources of this verification include the fiscal agent, which has a toll-free provider access number; the Bureau of Health Care Financing (BHCF); the Bureau of Economic Assistance (BEA), which has a toll-free number and will provide eligibility information for Supplemental Security Income (SSI) Medicaid recipients; the certifying agencies (primarily the 72 counties, plus a few other agencies); and the actual Medicaid recipient to whom services were rendered.

We interviewed (in person or by phone) all of the relevant State agencies and a sample (reflecting responsibility for 59 percent of all Medicaid eligibles) of local agencies concerning number of staff hours devoted to handling provider queries (phone and written) on recipient certification. We also interviewed a small sample of providers. Our estimated cost for all State and local Medicaid agencies, including staff time plus phone and other equipment cost, is $483,600 annually. Our estimate of provider costs for making these recipient certification queries includes the time for expressing the query (on-phone time, estimated to be 3 minutes per call or writing time, both estimated from State agency data on incoming phone calls and written correspondence) plus an estimated equal amount of time for the provider to recognize the problem, formulate the query, and (particularly for toll-free numbers use) complete phone connections. Provider staff hours were multiplied by an estimated mean provider billing staff cost, salary plus fringe, of $8.10 per hour. The total estimated provider cost of the recipient certification queries to the government agencies is $643,000.

This leaves the cost of provider attempts to obtain, after services were rendered, the required certification information from the recipient. Time constraints resulted in a very small, probably unrepresentative, sample of provider interviews concerning this cost. Although this limited sample suggests that provider staff time for getting in touch with the recipients regarding their certification status is a considerable amount (possibly well exceeding all other correspondence costs in this area), we have not included any estimate of this cost in our tables.

Provider reimbursement loss

We based our estimates of these losses on statistics derived from our sample of tracked rejected claims and the associated procedures described earlier. For this estimation, claim rejections related to "Recipient certification" under "Denials," as listed earlier, were considered (however, the subcategory "bill other insurance carrier," was not included on the assumption that all of these rejections would be ultimately paid, either by the other insurance carrier or by Medicaid[2]).

Thus, we estimated the unique rejections, which are not paid on subsequent submissions, valued according to mean pricing cutback amounts, for the individual subcategories of recipient certification error. We found considerable variation among these subcategories, both in resubmission rates for initially rejected claims and in the proportion of initially rejected claims that are ultimately paid on resubmission. These variations seem to reflect differences in the extent to which rejected claims are potentially reimbursable, by supplying improved information on the claim form, or else are basically nonreimbursable because of recipient's ineligibility to receive (under Medicaid payment) a given service from a given provider. In our sample of tracked claims, we found, for example, that 71.3 percent of the initially denied claims in rejection subcategory "missing or correctable information" were eventually paid upon resubmission; however, only 2.3 percent of the initially denied claims in the "recipient ineligible" subcategory were eventually paid after resubmission. For those services which are basically nonreimbursable to a provider, even given perfect information on service provision and claims filing procedures, the provider may, in some instances, nevertheless decide to offer the services, out of ethical or charitable feelings, or with the hope that the recipient might personally make payment.

The estimated provider reimbursement losses should be discounted for those losses that would not be reduced with improved information. For this, we needed first to estimate the proportion of unique claim rejection amounts (not paid on resubmission and valued at estimated pricing cutback), by provider grouping, that probably would not be paid under

[2]Some of these claims may be later denied by Medicaid (following the other insurance submission) for other rejection reasons. Thus, our failure to follow up these claims probably contributes to a downward bias in the cost estimates of our other rejection categories.

conditions of perfect information.[3] To these amounts, we then applied our assumptions about the ethics or charity factors applicable to the provider groups. Given the heavy reliance on assumptions, we consider the estimation of these adjustments as rather weak. The net result of applying these adjustments is a reduction in the recipient certification loss amounts from $31,816,400 to the $28,834,600 shown in Table 1.

Delayed payment

These costs relate to the interest lost by providers because of denial of the initial claim for reimbursement, even though reimbursement was obtained on resubmission. We estimated that the aggregate delayed payments for the first three subcategories of "Recipient certification" were $17,710,300, and that the mean incremental delay is 50.3 days for these payments. At 8 percent simple interest, we obtain delayed payment costs of $194,100.

Processing recipient certification error

These are the State costs for processing claims rejected for recipient certification error. In this case, we include the subcategory "bill other insurance carrier." This subcategory is included because if providers had (and acted on) perfect information on other insurance billing requirements, submitted claims would not be rejected for this reason. Multiplying rejected claims volumes for each rejection category by the estimated fiscal agent cost of processing and rejecting claims in these categories results in an estimated annual cost to the State (based on 1983 rejection volumes) of $490,500.

Submission of claims rejected

Various situations contribute to this cost estimation: If the initial claim for services reimbursement by a provider is rejected, and the provider does not resubmit the claim, the cost is that of the original submission. If the provider's original claim submission and all subsequent resubmissions (which frequently represent corrections to photocopies of original submissions) are all rejected, the cost is the sum of the cost of the original submission plus the cost of all resubmissions. However, if payment is effected by one of the resubmissions, the cost is only the (incremental) cost of the resubmissions.

We estimated that the mean provider staff labor time for all aspects of an original claim submission was 15 minutes for a manually prepared claim; we estimated zero staff labor time for the original submission of a claim prepared by automatic data equipment; and we estimated that all resubmissions, regardless of whether the original was manually or automatically prepared, required 5 minutes of provider staff time.

The cost computations were performed utilizing the volume of rejections for recipient certification, statistics indicating proportion of original versus resubmission claims and the percentage of resubmissions ultimately paid (both proportion and percentage obtained from our sample of tracked rejected claims), and State estimates of the proportions of submitted claims that are machine-produced. Estimated staff hours were valued at $8.10 per hour; postage per rejected claim was estimated at 5.2 cents for paper claims and 0.4 cents for tape claims (based on sampling of claims volume and applied postage per envelope or package in the mail room of the fiscal agent). These computations yield a total of $452,500 for administrative costs to providers for submitting rejected claims.

Program benefits policy

This information function refers to State policy governing which services are reimbursable. We have also chosen to include the deficient information costs of provider certification under this heading.

Operating costs

Although we based our annual cost estimate for policy dissemination to providers on the costs of manuals and bulletins, Wisconsin manuals are not revised on a regular basis; bulletins vary in frequency, length, and number of copies distributed, depending on the extent of the policy change and the size of audience to whom the policy change information is directed. Further, our review of cost data in this area was very limited. For both reasons, the following estimates should be regarded with considerable caution.

Based on per page production and mailing costs for two recently amended handbooks in which provider specialty sections were revised, the average cost of a complete (generic plus provider specialty section) provider handbook was estimated at $9.59 per copy. For 28,000 enrolled providers, the aggregate production and mailing cost would be $268,500; however, the share of this cost for annual participating providers (13,582 in fiscal year 1984) would be only about $130,200.[4] Because we will later analyze the cost on a participating provider basis, the latter amount, further reduced to $43,400 annually, assuming a 3-year complete revision schedule, is relevant for our estimations. With regard to provider bulletins, extrapolating from the estimated production

[3]For the missing or correctable information subcategory, we assumed only 50 percent of the net rejection amounts were nonreimbursable with perfect information exchange; for the recipient ineligible subcategory, 100 percent were assumed nonreimbursable; for the primary provider violation category, 70 percent were assumed nonreimbursable.

[4]The number of enrolled providers at any one time during the year is, presently, 22,000. The larger number, 28,000, of enrolled providers reflects the aggregate number of providers who are enrolled at some time during the year. Participating providers are enrolled providers who, during some period, submit Medicaid claims.

and mailing cost of a single (distributed to all providers) bulletin, we obtained the very tentative estimate of $80,000 per year, about $38,800 of which is the share of participating providers.

Deficient information costs

Policy change notification delays

We did not make an estimation of this cost area for Wisconsin. BHCF staff expressed the belief that, in most instances, printing and mailing lags in provider notification of policy change overlapped with other lags in the policy implementation process.

Provider requests for policy clarification

In Wisconsin (as well as other States), the primary, if not the sole source, for clarification of program benefits policy (beyond the information in the provider manuals and bulletins) is the State Medicaid administrative agency. (The fiscal agent is generally restricted to clarifying matters of filing policy and claims status.)

State costs for handling provider correspondence, phone and written, regarding benefits policy were computed by estimating the cost of BHCF staff time devoted to this correspondence, plus computer screen and phone use, and supplies. These computations resulted in an estimated $45,800 per year.

Provider costs for queries concerning benefits policy were computed on the basis of the phone time and written correspondence received by BHCF. Total provider staff time for organizing material relevant to the policy queries and making the calls was estimated by doubling the estimated total of actual phone time between BHCF and provider staff. Because providers must pay toll charges for calls to BHCF, phone toll costs, computed according to an estimated mean charge of $0.46 per minute, were added. Written policy queries from providers to BHCF were assumed to require 20 minutes each, preparation and writing, of provider staff time.

Interviewed providers have indicated that when confused by policy issues, they seek to resolve their confusion (often unsuccessfully) by reviewing the handbooks and bulletins. The costs of this research time might also be relevant, to the extent that a more efficient process for communicating policy was feasible. We do not, however, have a reasonable estimate of the amount of this research time.

The total estimated provider costs for benefits policy queries are $49,100.

Provider reimbursement loss

These are losses to providers resulting from rejection of claims for services not covered by Medicaid. The estimation procedure was the same as that described earlier for loss of reimbursement because of recipient certification error. The losses to providers because of benefits policy error are described by the subcategories under benefits policy, listed earlier (the last subcategory, "not separately or additionally payable," was regarded as equivalent to pricing cutbacks, rather than real rejections). The reimbursement losses owing to provider certification error, which we have also included in this section, are "Provider certification" subcategories. The aggregate provider reimbursement losses resulting from services noncoverage by Medicaid, based on benefits policy, amount to $12,056,200; losses resulting from provider certification error are $5,191,800 (both annual, based on calendar year 1983). We again made computations, similar to those described earlier for the recipient certification error, to estimate the amount of those reimbursement losses that would not be reduced by perfect information exchange. The same ethics or charity factor estimates that were applied in the recipient certification estimates were multiplied by the amount of program policy rejections assumed nonreimbursable if the provider had perfect information exchange. The result of these computations is a reduction in the total for the provider certification and benefits policy rejection losses from $17,249,000 to $16,465,200.

Delayed payment

These costs relate to the interest lost to a provider when the initial claim for reimbursement was denied because of provider certification error or benefits policy error, but reimbursement was obtained on resubmission. According to our sample of tracked claim rejections, the estimated aggregate delayed payment amount because of provider certification error is $2,603,700, and the mean number of incremental payment delay days owing to the error is 68.6. At 8 percent simple interest, the delayed payment cost is $39,100. Similarly, for benefits policy error, the aggregate delayed payment amount is $6,549,100, and the mean number of payment delay days owing to such error is 108.5 days. At 8 percent interest, the delayed payment cost is $155,700. The total for provider certification error and policy error is $194,800.

Processing program policy error

These are the State costs for processing claims rejected because of provider certification or benefits policy error. The denials for the benefits policy subcategory, "not separately or additionally payable," were excluded from provider reimbursement loss estimates because this subcategory is considered a payment cutback rather than a full denial; however, the claim details counted in this subcategory still determine avoidable processing costs and are therefore included in our computations. The estimated costs (computed as in the case of recipient certification) are $23,500 for the provider certification category and $154,900 for the benefits policy category, totaling $178,400.

Submission claims rejected

These are the costs to providers of submitting claims that are rejected by the claims-processing agent owing to provider certification or benefits policy error. The same methods of computation were followed as for costs of submitting claims that were subsequently rejected because of recipient certification error, as described earlier. The cost computations were performed utilizing the volume of rejections owing to errors concerning provider certification and benefits policy. Other statistics are the same as those indicated in the recipient certification error cost computations. The estimated provider cost of submitting claims rejected for reasons of provider certification and benefits policy error is $154,200.

Providers' claims for reimbursement

Operating costs

The normal operating costs of the current process include the provision by the State of claims filing rules,[5] the production and mailing of blank claim forms (and the return mailing to providers of submitted claim tapes), and the data entry and processing of claims for reimbursement: prior authorization requests, adjustment requests, second surgical opinion forms, and cash refund requests. Our study, focusing on the transfer of information related to provider claims for reimbursement, essentially sets aside the claims-processing operation, as opposed to claims submission, from present consideration. (We chose also not to include provider staff time for completing the Medicaid claim forms.) However, because alternative means of submitting claims do offer the elimination of current procedures of data entry from paper media, data entry costs are relevant.

The current annual cost of producing paper claim forms in Wisconsin is $268,400, and the cost of mailing the forms to providers (some pick the forms up at the fiscal agent's office) is $28,300, resulting in a total of $296,700.

According to the estimates obtained from State sources, the cost of data entry for all claims and claims-related paper media is about $1,098,000.

Provider staff time for filing claims represents a significant cost in the current system, but it is not clear what proportion, if any, of this time can be reduced by alternative filing processes, such as electronic claims submission. In any case, we have not carefully estimated costs of provider claims completion. Mean costs of mailing claims to the fiscal agent are about 5.2 cents per paper claim (borne by the provider) and about 0.4 cents per tape claim (representing 0.2 cents of provider expense for mailing the tapes to the fiscal agent and 0.2 cents of State expense for returning the tapes to the provider).[6] These per-claim estimated costs indicate aggregate annual costs to providers of $403,700 for mailing paper claims and $3,600 for mailing tape claims, for a total of $407,300. The State cost of returning the submitted tapes is estimated at $3,600.

Deficient information costs

Provider requests for claims clarification

In Wisconsin, providers may attempt to resolve confusion about claims filing by phoning or writing the fiscal agent. As in the case of recipient certification queries, calls to the fiscal agent may be made over a toll-free number, though several attempts may sometimes be necessary to obtain a free line.

The State costs of these provider queries were computed by estimating costs of fiscal agent staff time allocated to receiving phone calls and handling written correspondence in this area. We also included an estimated proportion of phone expenses allocated to these calls. We obtained an estimated total State expense of $198,500 for handling queries from providers concerning claims filing.

The provider costs were estimated from State data concerning phone calls and letters received by the fiscal agent. The fiscal agent's estimated staff time for these phone queries was adjusted for the proportion of actual on-phone time, then doubled to account for additional provider time in preparing information for the call and completing the call. Providers' staff time for letters was estimated on the basis of 20 minutes per written query received by the fiscal agent. A postage estimate was added. Total estimated provider costs for lodging claims filing queries is $128,100.

Provider reimbursement loss

The reimbursement loss to providers as a result of having claims for services rejected owing to claims filing error was estimated according to the same procedures employed in estimating the reimbursement losses because of recipient certification and benefits policy error. The provider reimbursement losses for claims filing error are estimated for the denial categories for missing or invalid claim data and for missing or correctable data. The aggregate provider reimbursement loss represented by these claim denial categories is estimated to be $12,853,600. Almost all of the denials because of claims filing error are assumed avoidable through improved provider information. As a result, the application of the provider ethics or charity factor, computed as in previous sections, results in little change, merely reducing the estimated filing error loss to $12,852,600.

[5]We did not attempt to separate the costs of printing and transmitting to providers the rules for claims filing from the costs of program benefits policy. The costs for both are included in the previous section on Medicaid program benefits policy.

[6]The postage cost (at 1983 rates) per paper claim was estimated from a sample of mailed claims envelopes and packages received in the mail room of the fiscal agent. The cost per tape claim was estimated from tape mailing costs supplied by State sources.

Delayed payment: Filing error

These costs represent the interest lost when the initial claim was rejected (denied or returned) because of claims filing error, but reimbursement was obtained after resubmission. Our sample of tracked rejected claims indicates that for the denial category of missing or invalid claim data, the aggregate delayed payment amount for 1983 was $7,852,600; the mean number of incremental payment delay days owing to the errors in these categories was 53.0, and the estimated delayed payment cost was $91,200. Similarly, for the returned claims categories, the aggregate delayed payment amount was $23,364,000, the mean number of incremental payment delay days was 47.3, and the estimated delayed payment cost was $242,100. The total costs of delayed payment due to filing error are therefore $333,300.

Delayed payment: Billing and processing

The lags described in the preceding section and other earlier sections involve only the incremental reimbursement lags, owing to initial rejections of ultimately paid claims, and constitute a subset of the total billing lag for submitted claims. Besides this lag component, accounted for by rejections because of various provider errors, submission lags are the result of several factors, including delayed allocation of provider staff time to the task (some of the providers interviewed said they tended to put off completion of the forms because of the detailed information required) and the need to bill other insurance coverage prior to billing Medicaid. In a small percentage of claims submitted, there is an unavoidable billing lag as providers await the completion of retroactive recipient certification. To the extent that an automated billing process could encourage (or facilitate) faster claims submissions by providers and reduce the other insurance billing lag, this general lag might be reduced. From routine State Medicaid reports, we obtained mean overall provider billing lags and provider net paid amounts for July 1983 through June 1984. The estimated interest cost (using an 8 percent simple interest rate) for the overall billing lag is $9,072,857. Of this amount, a total of $722,300 has already been counted in the estimate of delayed payment costs because of the various error categories. Of the remaining amount, we assume 1 percent might be the result of retroactive recipient certification, leaving $8,267,700 as the potentially reducible general billing lag cost.

The processing lag is the result, in part, of State-determined "pending" (temporary suspension) of certain claims and the speed of the State or the fiscal agent in resolving those actions. It is also the result of the frequency of edit and audit cycles, which are run by the fiscal agent. Some reduction in the processing lag might result from improvement in the quality of information on the claim form supplied by providers, but substantial reduction in the processing lag might require altered State guidelines on "pending" claims and more frequent (or real time) edit and audit cycles.

From routine State Medicaid reports, we also obtained the mean processing lags for the period July 1983 through June 1984. Applying these lags to the net payment amounts (and again utilizing an 8 percent rate of interest), gives a processing lag cost (compared with an ideal of instantaneous processing) of $2,589,000.

Processing filing errors

The costs to the State for processing claims that are denied because of claims filing error (as defined earlier) were estimated to be $151,800 for the missing or invalid claim data denials and $55,000 for the claim returns, for a total of $206,800.

Submission of claims rejected

The same methods of computation were followed as for recipient certification error submission costs and for program policy error submission costs, described earlier. The estimated provider costs of submitting claims rejected for filing error (defined by the indicated rejection categories) is $224,200.

Claims status advice

Operating costs

The estimated printing costs for the remittance advice statements, which advise providers of the adjudication status of their submitted claims, is about $43,800 annually. The mailing cost of these statements is about $395,200 annually.[7]

Deficient information costs

Provider queries concerning claims status

Providers may ask about the status of their submitted claims by phoning or writing to the fiscal agent. Phone calls to the fiscal agent may be made on the fiscal agent's toll-free number. The State costs of responding to these queries were computed by estimating costs of fiscal agent staff time allocated to receiving phone calls and written correspondence. An estimated proportion of phone calls at State expense was also included. The result was an estimated $15,400 State expense for claims status queries from providers.

The provider costs for lodging the queries were estimated from State data concerning the queries, according to the methodology described previously. The result was an estimated provider cost of $9,900 for claims status queries.

[7]These cost data were obtained from State sources. Remittance advice statements are mailed jointly with provider checks. The joint mailing expense was allocated between the remittance advice statements and the checks.

Processing duplicate rejections

These are the State costs for processing claims that are duplicates of previously submitted claims. The estimated cost, based on aggregate duplicate claim rejections and estimated processing costs, is $138,300.

Submitting duplicate claims

The methods of cost computation for administrative costs because of submission error, described earlier, were followed for submitting claims rejected because of duplicate submission. The estimated administrative costs to providers because of rejected duplicate claim submission is $61,800.

Payment to providers

Operating costs

The estimated printing cost for provider checks is $8,200 annually, and the cost of mailing the checks to providers is about $74,100 annually.

Deficient information costs

The single cost estimated under this heading is that of the payment transmittal lag, the period between final adjudication of a claim and the time the provider has payment in hand. This lag, conservatively estimated at 5 days, was applied to the same net paid amounts used in the billing and processing lag cost computations, at the usual 8 percent interest rate. The total transmittal lag costs for the July 1983 to June 1984 period were thus estimated at $1,022,200.

Summary of deficient information costs

As shown at the top of Table 1, deficient information costs to the State total $2.6 million; those of providers are much higher, at $72.5 million. On the other hand, estimated operating costs of the State are almost $2.6 million, but those of providers are only $0.4 million.

We noted earlier that our estimated deficient information costs may represent any of three situations:

- Some parties may bear unintended costs, while other parties obtain associated unintended benefits.
- Costs may be shifted from one party to another.
- There may be net (dead weight) costs to the system as a whole.

In Table 2, our estimated deficient information costs (extracted from Table 1) are presented according to these three situations.

Amounts in the unintended costs and benefits category reflect medical services to recipients that we estimate would not have occurred under perfect information exchange. The State incurs $871,800 and providers $33,909,200 of such costs, as shown in Table 2. Given perfect information exchange, the State and providers might have these costs eliminated, and recipients would lose the services associated with the costs. (These estimates do not include the nonreimbursed services that we assumed providers might deliver anyway, out of ethical or charitable considerations.)

"Shifted" costs are those transferred by the State to providers. They involve either provider-rendered services (which are not reimbursed by the State, but which could be reimbursed if providers had acted upon perfect information exchange concerning required procedures for rendering and filing for the services) or time costs of delayed reimbursement for services because of billing, processing, and payment lags. The total cost shifted to providers from the State is $36,844,300.[8] Given perfect information exchange, these costs might not be incurred by providers, but only if these costs were shifted back to the State.

System costs include the numerous administrative costs to both providers and the State associated with their attempts to cope with imperfect information. The State bears an estimated $1,757,300 and providers an estimated $1,722,800 of net system costs.

Cost estimates per provider

Our provider cost estimates have been presented on an aggregate basis for all Medicaid providers. An expression of these costs on a per provider basis would be much more meaningful, especially as an indication of what level of automated intervention might be worthwhile for individual providers. However, existing statistical reports are not geared toward providing the kind of synchronized data required to obtain per provider cost statistics.

We decided to focus on the number of participating billing providers, without attempting to sort out those who are temporarily enrolled. Because of system requirements, some providers (perhaps about 5 percent) must have more than one billing number and will therefore be multiple-counted. We also wished to indicate the considerable per provider variation in anticipated costs among the different provider types.

The only feasible disaggregation of our cost estimates for both claims rejection and payment lag, utilizing existing reports, is based on the different claim types that providers use for billing. However, individual providers may bill among various claim types, depending on the particular service for which they are claiming reimbursement; in those instances, a particular service will be multiple-counted among claim types (though single-counted within claim types). Nevertheless, we have attempted to use these data to obtain per provider estimates by grouping and

[8]Provider costs owing to nonreimbursement of rejected claims were distributed between the unintended costs and benefits category and the shifted costs category, according to our assumptions concerning the proportions of nonreimbursed services that might be reimbursed under perfect information. The assumptions seem plausible, but the distribution should be considered only approximate.

Table 2

Unintended costs and benefits, shifted costs, and system costs, by information function: Calendar year 1983

Information function	Unintended costs and benefits[1]		Shifted costs from State to providers	System costs	
	State	Providers		State	Providers
	Estimated annual cost in thousands				
Total	$871.8	$33,909.2	$36,844.3	$1,757.3	$1,722.8
Recipient certification					
Reimbursement following eligibility termination	871.8	—	—	—	—
Request for verification of recipient certification	—	—	—	483.6	643.0
Provider reimbursement loss	—	25,366.6	3,468.0	—	—
Delayed payment because of certification error	—	—	194.1	—	—
Processing of claim rejections	—	—	—	490.5	—
Submission of claims rejected	—	—	—	—	452.5
Program benefits policy					
Provider requests for policy clarification	—	—	—	45.8	49.1
Provider reimbursement loss	—	8,530.7	7,934.5	—	—
Delayed payment because of benefits policy error	—	—	194.8	—	—
Processing of claim rejections	—	—	—	178.4	—
Submission of claims rejected	—	—	—	—	154.2
Providers' claims for reimbursement					
Provider requests for filing policy clarification	—	—	—	198.5	128.1
Provider reimbursement loss	—	11.9	12,840.7	—	—
Delayed payment because of filing error	—	—	333.3	—	—
General delayed payment lags:					
Billing	—	—	—	206.8	—
Processing	—	—	—	—	224.2
Processing of claim rejections	—	—	—	15.4	9.9
Submission of claims rejected	—	—	—	138.3	—
Claims status advice					
Provider queries concerning claims status	—	—	—	—	61.8
Processing of duplicate claim rejections	—	—	—	—	—
Submission of claims rejected as duplicate	—	—	—	—	—
Payments to providers					
Payment transmittal lag	—	—	1,022.2	—	—

[1]The unintended benefits are conveyed to recipients.

SOURCES: Data are estimated from State of Wisconsin Medicaid Management Administrative Reporting Subsystem reports; samplings of Medicaid claims histories; and interviews with Medicaid providers, staffs of recipient certification agencies, and State of Wisconsin Medicaid administrative staff.

adjusting some of the figures. Although the resulting statistics lack precision, they should provide useful indications of the relative magnitude of costs over different provider groupings.

Because the counts of participating providers by claim type are only available on a monthly basis, they had to be adjusted upward to account for providers who participate in some months but not in others; in addition, a downward adjustment was required by the multiple counting of providers across claim types.

Our estimates of providers' reimbursement losses owing to rejected claims (for recipient certification, benefits policy and provider certification, and claims completion error) plus the billing, processing, and payment transmittal lag costs, distributed among our six provider groups are presented in Table 3. (The 6 groups were aggregated, for statistical convenience, from the 11 claim types among which providers bill.) The number of providers in each of the 6 groups is a rough estimate, obtained by sample estimation procedures, of the number of annual participating billing providers in the group.[9] The disaggregated costs are somewhat inexact as well, owing to imperfect adjustment for the multiple counting across claim types of some providers. Other estimated provider costs given in Table 1 are also summarized in Table 3, but without disaggregation according to provider group.

The estimates of mean per provider costs shown in Table 3 reveal considerable variation among provider groups. Whereas the annual mean per provider cost of all claim rejections is about $4,300 for all provider groups when aggregated, the mean cost ranges from $77,800 for hospitals through $23,700 for nursing homes and $2,600 for the professional group, down to $600 for the dental group.

For most provider groups, recipient certification rejections are the major component of the rejections

[9]The provider counts relate to the 12-month period from July 1983 through June 1984. The claims rejection data are for calendar year 1983. The billing, processing, and payment transmittal lag costs are for July 1983 through June 1984. Other cost data in the table are mostly annual estimates for calendar year 1984.

Table 3

Summary of all estimated provider costs, by provider group: Calendar year 1983

Provider group	Number of providers	Claims rejection reimbursement costs				Lag costs				Other costs
		Total	Recipient certification	Benefits policy and provider certification	Claims completion	Total	Billing[1]	Processing	Payment transmittal	
		Annual cost in thousands								
Total	13,582	$58,152.4	$28,834.6	$16,465.2	$12,852.6	$12,601.2	$8,990.0	$2,589.0	$1,022.2	$2,130.1
		(4.282)	(2.123)	(1.212)	(.946)	(.928)	(.662)	(.191)	(.075)	(.157)
Pharmacy	1,331	1,465.4	646.1	253.7	565.6	510.5	318.6	133.7	55.3	—
		(1.101)	(.485)	(.191)	(.425)	(.384)	(.239)	(.100)	(.042)	
Dental	2,390	1,510.3	615.3	676.5	218.5	130.9	84.3	32.4	13.4	—
		(.632)	(.257)	(.283)	(.091)	(.055)	(.035)	(.014)	(.006)	
Professional	6,693	17,279.1	6,121.1	5,245.8	5,912.2	1,781.6	1,340.7	328.5	100.0	—
		(2.581)	(.914)	(.784)	(.883)	(.266)	(.200)	(.049)	(.015)	
Hospital	296	23,040.6	13,667.9	4,771.7	4,601.0	5,251.3	4,154.9	817.6	240.5	—
		(77.839)	(46.175)	(16.121)	(15.544)	(17.741)	(14.037)	(2.762)	(.813)	
Nursing home	475	11,275.2	5,507.4	4,739.5	1,028.3	4,250.9	2,504.7	1,160.2	562.9	—
		(23.737)	(11.594)	(9.978)	(2.165)	(8.949)	(5.273)	(2.443)	(1.185)	
Other practitioner	2,397	3,581.8	2,276.8	778.0	527.0	758.9	586.8	116.6	50.1	—
		(1.494)	(.950)	(.325)	(.220)	(.317)	(.245)	(.049)	(.021)	

[1]These billing lag costs include, in addition to general billing lag costs, delayed payment costs from recipient certification error, program policy error, and filing error (Table 1).
[2]Includes $407,300 for provider mailing costs (included in the "operating costs" section of Table 1).

NOTE: Mean per provider cost estimates (computed on the basis of the estimated number of participating providers) appear in parentheses beneath aggregate cost estimates.

SOURCES: Data are estimated from State of Wisconsin Medicaid Management Administrative Reporting Subsystem reports; samplings of Medicaid claims histories; and interviews with Medicaid providers, staffs of recipient certification agencies, and State of Wisconsin Medicaid administrative staff.

total. For the lag costs in billing, processing, and payment transmittal, only hospitals ($17,700) and nursing homes ($8,900) have annual mean costs totaling more than $1,000. In each of the provider groups, the billing lag is the largest of the three lags.

These mean per provider estimates undoubtedly conceal great variation among individual providers within each group. It is likely that many providers in a group will have cost levels considerably higher than the estimated means. Unfortunately, we were unable to investigate the distribution of costs among individual providers.

Other State Medicaid programs

In an attempt to learn whether the results of our study of Medicaid in Wisconsin might be roughly representative of Medicaid programs in other States, adjusted for the relative program sizes of the other States, Medicaid program staff in 12 States were queried by phone, and brief visits were made to 4 of those States: New York, Michigan, Florida, and Arkansas. Compared with Wisconsin (1.0), these States have the following proportionate Medicaid payment magnitudes: New York, 7.4; Michigan, 1.6; Florida, 0.67; and Arkansas, 0.33.

It was not possible, during the phone survey, to obtain statistical data relevant to cost-study comparisons. The phone survey mainly served to confirm that various procedures of program operation (which generate the identified costs) were roughly similar to Wisconsin. Although the visits to the four States did enable us to collect some statistical data relevant to cost comparisons, such comparisons demand considerable caution. Because the brief time allocated to the visits did not allow detailed study of definitions and procedures used in the statistical reports obtained, we cannot be sure that apparent differences in statistical values accurately reflect real differences in the values of the variables.

Generally, however, information obtained concerning program procedures, as well as statistical information on claims rejections, billing, processing and payment lags, and volume of provider queries strongly indicate that our cost estimates for the Wisconsin Medicaid program are not atypical with respect to Medicaid programs in other States.

What can we say nationally, then, on the basis of the Wisconsin data on costs of deficient information? In 1982, the mean program expenditures size of the other 48 States (Arizona excluded) and the District of Columbia was .795 of the Wisconsin expenditure size. Assuming the losses for the other 49 jurisdictions to be proportional to the Wisconsin loss, the aggregate loss for all 50 jurisdictions would be 40 times the Wisconsin loss, or about $3 billion annually.

We learned also, during our limited survey of other States, that some States have begun to seek, or have already implemented, automated procedures to reduce some of the information costs described in our Wisconsin study. Such automated procedures include on-line recipient certification verification systems for providers and electronic claims submission.

Beyond Medicaid

Many of the cost areas that we are examining for Medicaid are also significant not only for the other major governmental personal health care program, Medicare (which has national expenditures 50 percent

greater than Medicaid), but for all third-party coverage.

Under Medicare and private third-party coverage, providers will experience losses owing to noncovered services (based on eligibility and policy rejections), payment delays (because of intermediate rejections and general billing and payment delays), and administrative costs (when providers assume the claims filing responsibility) in submitting and resubmitting rejected claims and attempting to sort out the difficulties experienced in getting claims paid.

Under Medicaid, the widespread existence of dual third-party coverage (usually Medicare in addition to Medicaid) contributes heavily to providers' administrative costs. An appreciable number of claims rejections are because of the requirement that providers submit claims to Medicare and to other insurance coverage before submitting to Medicaid. To the extent that an automated intervention could be comprehensive, including Medicare and, perhaps, commercial insurance as well, administrative savings within Medicaid alone would be enhanced.

A brief review of private insurance company claims adjudication and provider communication procedures indicates that although recipient certification may be less of a problem and benefits policy perhaps less complex, the same issues we found in our Medicaid study apply, generally, to the private insurance area as well.

Conclusion

We stated at the outset that this study was motivated by our intuitive view that appreciable costs result from various discontinuities in information exchange among Medicaid program parties. The results of this study, focusing on information exchange between the State and Medicaid providers, have confirmed that considerable costs appear to result from imperfect information exchange. Although the pattern and relative magnitude of costs may vary for Medicaid programs in other States, our limited review of programs in selected States suggests that our Wisconsin findings may be indicative of information exchange costs for Medicaid nationally.

It remains for individual States to carefully evaluate already developed, or proposed, automated interventions to deal with the various information exchange cost areas described here. The costs of these interventions need, in each instance, to be compared with the expected reduction in existing costs associated with information exchange under the present system, to see if that reduction (the automated intervention gross benefit) exceeds the intervention cost. The distribution of aggregate costs between program actors and the implications of terminating certain shifted costs (and unintended benefits) will also be relevant to consideration of which parties should pay for implementing the intervention.

While this study was in progress, some States were experimenting with, planning to implement, or even had already implemented automated interventions designed to deal with some of the information exchange problem areas studied here. The cost-benefit experience of these States, to the extent that it is carefully documented in the implementation of these interventions, will be most useful to States that have not yet embarked on such interventions.

Ideally, the interventions selected should not merely offer some positive benefit-cost advance relative to the current system, but rather the maximum benefit-cost advantage; this would be accomplished by dealing not only with the broadest range of Medicaid information transfer costs, but with the range of information transfer for all third-party insurance programs.

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