U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

Feasibility of Matching Medicare and Medicaid Data for Dually Eligible Beneficiaries in Oregon

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Office of the Assistant Secretary for Planning and Evaluation

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FEASIBILITY OF MATCHING MEDICARE AND MEDICAID DATA FOR DUALLY ELIGIBLE BENEFICIARIES IN OREGON

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EXECUTIVE SUMMARY

In 1994, the Oregon Health Plan (OHP) was started under an 1115 waiver demonstration. As part of this waiver, beneficiaries were moved from fee-for-service to managed care, eligibility was expanded to all persons below the Federal Poverty Level, and a prioritized list of services replaced the standard Medicaid benefit package. Unlike most states, Oregon received approval from the Health Care Financing Administration (HCFA) to move those beneficiaries eligible for both Medicare and Medicaid (dual eligibles) into Medicaid managed care. One year after the implementation of OHP, the transition of dual eligibles into managed care was started.

This study is unique in that it attempts to link Medicare claims with Medicaid managed care encounters and with Medicaid fee-for-service claims. Previous researchers have merged Medicare and Medicaid claims files for dually eligible beneficiaries in fee-for-service, but such a task has not been previously attempted for those in managed care. Under managed care, traditional claims are not submitted, but plans are required by the State to submit encounter data. In this study, we assess the feasibility of matching 1996 Medicaid encounter data to the corresponding Medicare claim. By providing a claim (or encounter) to claim match, a complete picture of the cost and utilization of services by the dual eligible population can be portrayed.

We were able to link beneficiary IDs across Medicare and Medicaid eligibility files and to determine periods of eligibility for coverage. We also developed algorithms to match corresponding Medicare and Medicaid claims/encounters, using a variety of criteria. We first attempted to match Medicare claims to Medicaid claims/encounters using date of service, procedure and diagnosis. This resulted in a match rate of about 12 percent. Even after relaxing the criteria constituting a "match" to the date of service on the Medicare and Medicaid files being within two days of each other, only a relatively small percentage of Medicare claims had a "matching" Medicaid claim or encounter:

- 29 percent of Medicare physician claims had a matching Medicaid claim or encounter;
- 10 percent of Medicare outpatient department services linked to a Medicaid claim/encounter; and
- 18 percent of Medicare inpatient stays had a Medicaid counterpart.

Mental health claims had the highest rate of matching (54%) among procedure groupings for the physician claims. We suspect that the higher rate results from the higher Medicare co-payment rate for mental health services (50% vs. 20% for other covered services). This supports the theory that Medicaid cost-sharing claims/ encounters are not present in the data because providers do not bother to submit them, given the low payment levels provided by Medicaid. If the Medicare payment (less the deductible and copayments) is higher than the State Medicaid reimbursement rate, the State will not pay the cost-sharing. Thus, a provider will not receive Medicaid cost-

sharing if the provider would then get more than they would have been paid by Medicaid for the service.

Since the absolute numbers of Medicare claims and Medicaid claims/encounters for dually eligible beneficiaries were similar, we were surprised by the low match rates. To investigate further, we reversed the process and matched Medicaid data to Medicare claims. Only 38 percent of Medicaid encounters and 24 percent of Medicaid fee-for-service claims matched a Medicare claim. There are two explanations for the low match rates. First, Medicaid claims/encounters would have no matching Medicare claim if the beneficiary was enrolled in Medicare managed care. Second, the majority of the services generating a Medicaid claim/encounter are for non-Medicare covered services (e.g., transportation, vision, school-based services, non-covered mental health services).[1]

Despite the low matching rates, Medicare claims and Medicaid claims and encounters can still provide a detailed representation of cost and utilization for dually eligible beneficiaries. Medicaid claims and encounters serve to provide data on services not provided by Medicare. However, because Medicare HMOs do not provide encounter data, information for beneficiaries enrolled in Medicare HMOs will remain incomplete.

[1] Non-Medicare covered mental health services found in the Medicaid claims were daily structure and support services and skill training services.

1. INTRODUCTION

Oregon launched its innovative Medicaid program, the Oregon Health Plan (OHP), in February 1994 as part of an 1115 waiver demonstration. Under the waiver, Oregon replaced the standard Medicaid benefit package with a prioritized list of services, expanded coverage to all persons below the Federal Poverty Level, and moved beneficiaries from fee-for-service to managed care. Oregon is one of the few states whose waiver enables them to include their dually eligible beneficiaries in Medicaid managed care. Managed care for this population was implemented in February 1995.

Previous researchers have merged Medicare and Medicaid claims files for dually eligible beneficiaries in fee-for-service, but such a task has not been previously attempted for those in managed care. Under managed care, traditional claims are not submitted but plans are required by the State to submit encounter data. In this study, we assess the feasibility of matching Medicaid encounter data to the corresponding Medicare claim. Neither data set presents a full picture of beneficiary utilization of medical services since Medicaid data may be incomplete (if providers bill Medicare but no Medicaid bill is generated) and Medicare data will not contain non-Medicare covered services that are provided under Medicaid. Thus, using both datasets is necessary to gain a complete picture of utilization and payments. Because about 25 percent of dually eligible beneficiaries remain in Medicaid fee-for-service (through an exemptions process), we also perform a similar process for these beneficiaries (i.e., matching Medicaid claims to Medicare bills).

How does the payment for health services for dually eligible beneficiaries work? Medicare has primary financial responsibility for services provided by both programs, with Medicaid supplementing financially through the payment of Medicare premiums, copayments, and deductibles. Medicaid also fills in some of the gaps in Medicare coverage such as prescription drugs, eyeglasses, transportation, long-term care, and residential mental health services (http://www.geron.org, 1998). States use Medicaid funds to "buy-in" to Medicare coverage for these low-income beneficiaries. There are two main groups of Medicare beneficiaries that qualify for Medicaid benefits. First, there are beneficiaries who qualify for Medicaid. This group receives benefits beyond those covered by Medicare, including coverage of prescription drugs and nursing home care and they also receive assistance in paying for their Medicare premiums and cost sharing. The second group are those beneficiaries who qualify for cost-sharing and premium assistance (QMBs and SLMBs), but do not qualify for Medicaid assistance. The latter group are not enrolled in OHP.

There are four "types" of enrollment arrangements for dually eligible beneficiaries in Oregon since these enrollees have the option of enrolling in fee-for-service or managed care in both the Medicare and Medicaid programs. (See Mitchell and Saucier, 1999 for a detailed discussion of these enrollment options in OHP.) Our analyses look at matching rates separately by enrollment arrangement, as the availability of data will

vary by payment arrangement. The implications of the different fee-for-service/managed care arrangements are illustrated in Table 1-1.

TABLE 1-1. Medicare and Medicaid Payment Arrangements

Medicaid	Medicare	
	Fee-For-Service	**Managed Care**
Fee-For-Service	Medicare claims appear for Medicare covered services and Medicaid claims appear for cost sharing associated with these Medicare covered services. Also have Medicaid claims for Medicaid covered services that are not covered by Medicare (e.g., transportation, eyeglasses).	Claims appear on the Medicaid files for the cost-sharing and Medicaid covered services not covered by Medicare, but no encounters on the Medicare side.
Managed care	Medicare claims are generated for Medicare covered services. Encounters are generated on the Medicaid side for cost-sharing and Medicaid covered services that are not covered by Medicare.	Under OHP, enrollees in this arrangement must be in the same plan for both payers. There will be no Medicare encounters, but Medicaid encounters should appear for all services.

Medicare data contain a 100 percent sample of claims for dually eligible beneficiaries enrolled in fee-for-service, just as they do for all fee-for-service enrollees. (No Medicare claims are available for managed care enrollees, since the Medicare databases were designed primarily to track provider payments, and capitated payment plans historically have not been required to submit claim or encounter information.) For covered services, Medicare is the primary payer, and claims for these services should be generated for dually eligible beneficiaries.

For Medicare services having a patient deductible or copayment, the provider can submit a bill to the state Medicaid program for reimbursement of fee-for-service patient liability and to the Medicaid managed care plan for managed care patient liabilities. For 1996 (the data year used for this study), the deductible/copayment rules were:

- for physician/supplier claims -- a $100 annual deductible, with a 20 percent copayment thereafter. The copayment for most mental health services in an outpatient setting is 50 percent.
- for outpatient department claims -- a copayment of no less than 20 percent of the billed charge.
- for inpatient claims -- a $736 deductible for a hospital stay of 1-60 days in a benefit period, with a copayment for days 61-150 of the stay.

Thus, providers could generate Medicaid claim/encounter data for all physician/supplier and outpatient department claims, and for most inpatient claims. However, it is possible for the Medicaid reimbursement rate for services to be lower than the Medicare rate. If the Medicare program (without beneficiary liability) has reimbursed the provider at a rate as great or greater than the state Medicaid reimbursement level, Oregon will not cover the patient liability. In cases where the State is obliged to make a payment, but the

amount is small, providers may not bother to submit a claim. State officials report that Oregon's fee-for-service payment rates historically have been very low for both hospital and physician services.

This report presents results of efforts to match Medicare and Medicaid data for 1996. Chapter 2 describes the data sets and methods used in the study. Chapter 3 presents the results for physician (medical), outpatient, and inpatient claims. Chapter 4 briefly concludes the analysis.

2. DATA AND METHODS

2.1 Data

We used 1996 Medicare and Medicaid enrollment and data files for this feasibility study. Although Oregon's dually eligible beneficiaries were enrolled in Medicaid managed care beginning in 1995, Medicaid encounter data were quite incomplete during this start-up period.

2.1.1 Medicaid Enrollment Files

The Oregon Health Plan generates monthly enrollment files. These twelve files were merged to create one annual file for 1996 (called the "switch" file) containing monthly eligibility and enrollment information. Eligibility information includes whether a person was eligible for Medicaid during each month and reason for eligibility (e.g., old-age, disabled). This allowed us to identify the dual Medicare/Medicaid eligibles -- our population of interest -- and to determine whether they were eligible for Medicaid during the same time period they were receiving Medicare services. The file also contains a unique Medicaid identifier, called a PRIME, that was used to identify claims for the dually eligible beneficiaries, and the date of birth, sex, and Social Security number for each Medicaid eligible. Enrollment information on this file included whether the Medicaid eligible was enrolled in Medicaid managed care (and if so, which plan they were enrolled in) or Medicaid fee-for-service.

2.1.2 Medicaid Utilization Files

Two types of Medicaid utilization files were used for this study: Medicaid claims files and Medicaid encounter data files. The Medicaid claims files contain Medicaid services provided to the 25 percent of beneficiaries remaining in fee-for-service. The Medicaid encounter data files contain services provided to Medicaid enrollees in managed care.

The exception to this rule occurs for Medicaid covered services that are not included in the capitation rate to plans and are provided on a fee-for-service basis. These services appear in the fee-for-service claims file regardless of whether the beneficiary receiving the service was enrolled in managed care or fee-for-service. For example, mental health services appear primarily in the claims file, because these services generally were carved-out from managed care in 1996.

The utilization files are further divided by type of service: inpatient, medical (physician/supplier), and outpatient hospital. The inpatient files contain information on hospital inpatient stays. Any service provided by a physician or non-physician provider (e.g., physical therapist, psychologist), whether in an inpatient, outpatient, or office

setting, is included in the medical files. The outpatient files contain services provided in a hospital outpatient department.

2.1.3 Medicare Enrollment File

Medicare enrollment information is found in the Medicare Enrollment Data Base (EDB). This file contains a unique identifier (HICNO), reason for enrollment (e.g., elderly, blind and disabled), demographic information (age, sex, race, date of birth), and for which months (if any) he/she was enrolled in managed care.

2.1.4 Medicare Utilization Files

We extracted data from four Medicare utilization files: inpatient (MedPAR), Part B (physician/supplier), and outpatient department files. The inpatient, Part B, and outpatient Medicare files correspond to the inpatient, medical, and outpatient Medicaid files. However, Medicare creates a separate DME file, while the DME Medicaid claims and encounters are included in the medical file. Because the 1996 Medicare DME file was not ready at the HCFA Data Center, it was not included in this analysis.

2.2 Methods

2.2.1 Ascertaining Medicare/Medicaid Eligibility

The state constructs monthly files that contain information including whether the Medicaid beneficiary was also eligible for Medicare and what Medicaid plan the beneficiary belonged to. For 1996, a total of 47,746 beneficiaries were dually eligible for at least one month during the year. The Medicaid eligibility files contained two identifying numbers for each beneficiary: the PRIME ID (assigned by Medicaid) and the Social Security Number. These files were aggregated into one file for 1996 that included indicators for each PRIME ID for each month.

For a small percentage of the observations, Social Security Numbers matched to multiple PRIME IDs. This was surprising, since we had assumed that an individual was assigned a unique PRIME ID, which would remain the same if he/she moved on and off Medicaid eligibility. Examination of the eligibility information revealed that eligibility for one PRIME ID would begin just as eligibility for another ended (with both matching the same Social Security Number). For example, the first PRIME ID would be in a given managed care plan for January through April, and then eligibility would end. The second PRIME ID with the same Social Security number would be Medicaid eligible May through December and in the same managed care plan. Thus, it appeared that these were the same individuals, and for some reason they had been assigned a new PRIME. We collapsed information for these beneficiaries into a single record, and kept each PRIME on the file. This allowed us to determine, for each individual, the months they were Medicaid and Medicare eligible, and whether they were in Medicaid fee-for-service or managed care in each month.

Social Security numbers from the Medicaid file were used to identify the Medicare HICNO (identification number) for each dually eligible beneficiary. Since many individuals (primarily women who chose to receive Social Security benefits based on a spouse's earnings) have HICNOs that are not based on their own Social Security numbers, we used a HCFA file that contains both Social Security numbers and HICNOs to ascertain HICNOs. The Medicare cross reference file was then used to determine all HICNOs ever assigned to the individual. (HICNOs primarily change through changes in marital status; for example if a widow remarries.) The resulting list of HICNOs was used to extract all Medicare claims from the hospital inpatient, physician/supplier, and hospital outpatient department files for these individuals for the time period during which they were Medicaid eligible.

2.2.2 Variable Creation

For the physician/supplier and outpatient files, we were interested in whether matching rates varied across types of services. We expected that providers would be more likely to submit copayment claims or encounters for expensive services, like surgery. Thus, we created fourteen categorical groupings of CPT-4 and local procedure codes: surgery, diagnostic tests, office visits, hospital visits, ER visits, custodial care (e.g., nursing facility or rest home services), home health visits, physical therapy and speech therapy, mental health services, pathology and laboratory, anesthesia, transportation, and other services. Our physician/supplier and outpatient department results are presented in total and by each of these categories.

We were also concerned that Medicare and Medicaid claims might fail to match because of slightly different procedure codes on the two files. To determine whether procedures were "near matches" we created a categorical "class" variable with four possible values: evaluation and management, surgical procedure, anesthesia, and other. If procedure codes were not exact matches, claims were checked to determine whether procedures were in the same class of procedures.

2.2.3 Merging Medicare and Medicaid Utilization

Once the crosswalk for Medicaid and Medicare identifying numbers was complete, the files could be compared to determine whether the Medicare claims had matching Medicaid claims or encounters. Multiple criteria were used to ascertain whether claims matched, beginning with very strict criteria (that required matches of multiple fields) which were then systematically relaxed. For example, for the physician/supplier Medicare file, we searched the Medicaid claims and encounter files for observations that matched on personal identifier, date, procedure, and diagnosis. We also searched for claims that matched by date and procedure; date, diagnosis, and procedure class; date and diagnosis; date and procedure class; just date; or date within 2 days of the Medicare date of service. We present the number of matches using each set of criteria.

3. RESULTS

This chapter reports our findings when we tried to match Medicare Part B, Outpatient, and Inpatient claims with the corresponding Medicaid Encounters and Claims for the dually eligible beneficiaries.

Table 3-1 provides the number of dually eligible beneficiaries by Medicare and Medicaid enrollment status. Dually eligible beneficiaries were classified based on whether they were enrolled in managed care, fee-for-service, or switched from one to the other during the year in both Medicare and Medicaid. Ideally, we would have presented results for the four categories of Medicare-Medicaid payment arrangement. However, dually eligible beneficiaries may, and do, change their enrollment options under both programs. Thus, we had to create additional categories for these "switchers". If someone was enrolled in fee-for-service for more than nine months of the year, we considered them to be mostly fee-for-service (the mostly managed care category was constructed analogously). If a dually eligible beneficiary was enrolled in managed care for more than two months, but less than ten months, they were considered to be a "switcher" who spent significant time in both sectors. A beneficiary could be enrolled in fee-for-service in both programs, enrolled in a Medicare managed care plan and Medicaid fee-for-service, etc.

While the majority of dually eligible beneficiaries are in Medicare fee-for-service (63%, or 29,978/47,746), this is low compared with Medicare beneficiaries nationally. Managed care penetration has been historically high in Oregon, for both Medicare and the commercially insured. About one-half of these Medicare fee-for-service beneficiaries (11,866) were enrolled in a Medicaid managed care plan. Medicare managed care enrollees were much more likely to be enrolled in a Medicaid managed care as well (about two-thirds, or 9,023/12,795).

TABLE 3-1. Number of OHP Dually Eligible Beneficiaries by Beneficiary Enrollment Status

Medicaid Status	Medicare Status			
	Mostly Fee-For-Service[1]	Mostly Managed Care[2]	Switchers[3]	Total
Mostly Fee-For-Service[1]	12,881	3,210	705	16,796
Mostly Managed Care[2]	11,866	9,023	2,277	23,166
Switchers[3]	5,231	562	1,991	7,784
Total	29,978	12,795	4,973	47,746

SOURCES: Medicare Enrollment Data Base, 1996. OHP eligibility and enrollment files, 1996.
NOTES:
1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

TABLE 3-2. Frequency of Procedure Codes for Dually Eligible Beneficiaries -- Medicare Part B and Medicaid Medical Files								
Procedure Code Group	**Medicare**		**Medicaid Encounter**		**Medicaid Fee-For-Service**		**Total Medicaid**	
	Frequency	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Surgery	39,185	5.3%	10,434	3.4%	275	0.1%	10,709	1.5%
Diagnostic Tests	68,928	9.3	19,278	6.3	511	0.1	19,789	2.7
Office Visits	136,875	18.5	86,504	28.3	1,019	0.2	87,523	12.1
Hospital Visits	57,195	7.7	12,546	4.1	603	0.1	13,149	1.8
ER Visits	23,004	3.1	2,368	0.8	76	0.0	2,444	0.3
Custodial Care	31,085	4.2	6,837	2.2	59	0.0	6,896	1.0
Home Health Visits	831	0.1	271	0.1	5	0.0	276	0.0
Physical and Speech Therapy	10,055	1.4	2,093	0.7	475	0.1	2,568	0.4
Mental Health Services	31,412	4.2	50,540	16.6	241,015	58.0	291,555	40.4
Pathology and Lab	174,003	23.5	20,067	6.6	1,086	0.3	21,153	2.9
Anesthesia	5,616	0.8	1,213	0.4	49	0.0	1,262	0.2
Transportation	15,756	2.1	6,710	2.2	151,932	36.6	158,642	22.0
Substance Abuse	0	0.0	10,372	3.4	2,305	0.6	12,677	1.8
DME	0	0.0	22,786	7.5	397	0.1	23,183	3.2
School Based Services	0	0.0	0	0.0	255	0.1	255	0.0
Vision Services	1	0.0	6,376	2.1	4,715	1.1	11,091	1.5
Other	147,222	19.9	46,746	15.3	10,899	2.6	57,645	8.0
Total	741,168	100.0	305,141	100.0	415,676	100.0	720,817	100.0
SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.								

3.1 Medicare Part B and Medicaid Medical Files

Table 3-2 shows the distribution of physician/supplier (medical) claims based on broad classifications of procedures for the Medicare and Medicaid files. The total number of Medicare claims (741,168) is very close to the total of the number of Medicaid encounters and claims in the files (305,141 plus 415,676, or a total of 720,817). However, the Medicaid data have a large number of observations for services that are not covered by Medicare, including 12,677 substance abuse claims/encounters, 255 claims/encounters for school based services, and 11,091 observations for vision care services (primarily prescription glasses). In addition, the Medicaid file has 158,642 observations for transportation services, which are generally not covered by Medicare. (The Medicare file has 15,756 claims for transportation services, since ambulance services can be covered, but routine transportation for medical care is not.) Similarly, the number of mental health services in the Medicaid files (291,555) is much greater than the Medicare claims (31,412) because Medicare does not cover many of the mental health services provided to Medicaid patients.[2]

Conversely, among the services covered by Medicare, the number of Medicare claims is significantly higher than the number of Medicaid encounters and fee-for-service claims. For example, Medicare has 136,875 office visits claims for the dually eligible beneficiaries, but there are only a combined 87,523 Medicaid office visits. Similar results hold for the number of surgical procedures, diagnostic tests, hospital and ER visits, and pathology and lab services. Based on these large differences in the types of claims found in each of the files, we suspected that there would be a low matching rate between the Medicare and Medicaid files.

Table 3-3 shows the percentage of Medicare claims for which a corresponding Medicaid claim or encounter was found. Overall, there was a 29 percent match rate (216,469 of 741,168 Medicare claims matched), as seen in the bottom right-hand corner of Table 3-3. In addition, procedures were classified into groups such as surgery, diagnostic tests, office visits, mental health, etc., (shown as column headings) to see if there was variation in the match rate by type of services. We expected, for instance, that for the surgical procedure group, where the twenty percent Medicare coinsurance would typically be a much higher dollar amount than that for an office visit, the match rate would be high relative to the other groups. However, the match rate for surgery was only 24 percent, substantially lower than diagnostic tests (34%), office visits (40%), and mental health services (54%).

[2] The Medicaid files also contain over 23,000 records for Durable Medical Equipment (DME). Although Medicare covers DME, it was not included in our analysis because the Medicare utilization file was not ready when we began this work.

TABLE 3-3. Number of Medicare Part B Claims that Match to Medicaid Encounters and FFS Claims by Procedure Grouping

	Procedure Grouping													
	Surgery	**Diagnostic Tests**	**Office Visits**	**Hospital Visits**	**ER Visits**	**Custodial Care**	**HH Visits**	**Physical Therapy & Speech Therapy**	**Mental Health**	**Pathology and Lab**	**Anesthesia**	**Transport**	**Other Services**	**Total**
Medicare Claims that Match to Encounters														
Matching Criteria:														
Date, Procedure, Diagnosis	5,127	12,563	35,197	8,406	1,614	5,096	80	776	804	4,793	849	298	10,365	85,968
Date and Procedure	210	312	697	207	27	85	2	53	29	168	20	1,207	521	3,538
Date, Diagnosis, Class[1]	28	203	83	94	41	15	0	13	830	986	0	15	850	3,158
Date, Diagnosis, not Class	68	97	175	82	132	1	0	2	16	868	22	0	525	1,988
Date and Class	25	667	58	108	102	1	0	55	629	1,663	0	312	1,495	5,115
Date only	234	424	478	427	478	24	3	33	54	1,079	67	76	424	3,801
Date within 2 days	425	1,172	1,396	966	526	113	14	241	951	4,493	67	276	2,998	13,638
Total Matches	6,117	15,438	38,084	10,290	2,920	5,335	99	1,173	3,313	14,050	1,025	2,184	17,178	117,206
Medicare Claims that Match to Fee For Service Claims														
Matching Criteria:														
Date, Procedure, Diagnosis	12	24	58	20	11	5	0	0	0	140	4	0	37	311
Date and Procedure	0	1	6	8	0	1	0	0	0	30	0	0	2	48
Date, Diagnosis, Class	2	54	0	1	0	0	0	190	9,364	762	0	0	785	11,158
Date, Diagnosis, not Class	9	0	2,403	230	13	16	0	0	4	43	0	0	16	2,734
Date and Class	10	6,012	6	3	4	0	0	791	2,653	18,733	0	1,277	11,814	41,303
Date only	2,263	11	10,633	1,896	957	454	3	0	7	77	326	2	75	16,704
Date within 2 days	1,020	2,102	2,918	2,386	820	636	15	141	1,754	6,600	239	847	7,527	27,005
Total Matches	3,316	8,204	16,024	4,544	1,805	1,112	18	1,122	13,782	26,385	569	2,126	20,256	99,263
Total in Class Matching	9,433	23,642	54,108	14,834	4,725	6,447	117	2,295	17,095	40,435	1,594	4,310	37,434	216,469
Total Medicare Claims in Class	39,185	68,928	136,875	57,195	23,004	31,085	831	10,055	31,412	174,003	5,616	15,756	147,223	741,168
Total % Match	24.1%	34.3%	39.5%	25.9%	20.5%	20.7%	14.1%	22.8%	54.4%	23.2%	28.4%	27.4%	25.4%	29.2%

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.
NOTE:
1. Class is made up of four broad procedure groups: evaluation and management, surgery, anesthesia, and other.

In order to determine whether claims that were not exact matches might be considered "near matches", we created several matching criteria. We started out using very restrictive criteria that were relaxed as we proceeded. The most stringent matching criteria required that the claims on the Medicare and Medicaid files had to match based on the date of service, procedure code, and diagnosis. Our more relaxed criteria included matching only on date and procedure, on date and diagnosis, on date only, and finally the date of service on the Medicare and Medicaid files being within two days of each other. The results of these attempts to match claims by varying criteria can also be found in Table 3-3. In the Medicaid encounter file, most claims that did match were in the stricter match criteria category. We had marginally more success in matching more claims as our criteria became more lenient (except for pathology and lab services in which we more than doubled our match rate). Surprisingly, we had much less success in matching to the Medicaid fee-for-service file. Very few claims matched based on our more stringent criteria. Local procedure codes were used on the Medicaid files rather than the CPT-4 procedure codes required by Medicare, so very few claims had matching procedure codes (even though the actual procedures represented by the codes may have been very similar).

TABLE 3-4. Number of Part B Medicare Claims and Medicaid Medical Claims and Encounters for Dually Eligible Beneficiaries by Beneficiary Enrollment Status

Medicaid Status	Medicare Status			
	Mostly Fee-For-Service[1]	Mostly Managed Care[2]	Switchers[3]	Total
Medicare Claims				
Mostly Fee-For-Service[1]	290,590	6,917	2,787	300,294
Mostly Managed Care[2]	241,326	52,792	25,588	319,706
Switchers[3]	98,051	1,613	21,504	121,168
Total	629,967	61,322	49,879	741,168
Medicaid Encounters				
Mostly Fee-For-Service[1]	5,678	367	105	6150
Mostly Managed Care[2]	161,188	75,958	17,911	255,057
Switchers[3]	33,171	2,401	8,362	43,934
Total	200,037	78,726	26,378	305,141
Medicaid Fee-For-Service Claims				
Mostly Fee-For-Service[1]	85,790	13,067	1,138	99,995
Mostly Managed Care[2]	127,148	103,240	30,170	260,558
Switchers[3]	35,847	2,476	16,800	55,123
Total	248,785	118,783	48,108	415,676

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.

NOTES:

1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

The next five tables show matching rates based on Medicare and Medicaid enrollment status to see if matching rates differed significantly across these different combinations of enrollment types. The number of claims in each of the three files (Medicare, Medicaid managed care, and Medicaid fee-for-service) by enrollment status

is shown in Table 3-4. In all three files, the majority of the claims were generated by enrollees in Medicare fee-for-service for the majority of the year (because no Medicare claims are generated for patients in Medicare managed care). Additionally, the relatively small number of claims for switchers results from the low number of people moving back and forth between Medicare fee-for-service and managed care during the year.

Table 3-5 looks at the percentage of Medicare claims that match to a Medicaid claim or encounter based on enrollment status. Only 30 percent of Medicare claims matched to Medicaid data (as was shown in Table 3-3). Beneficiaries in Medicaid fee-for-service have much lower match rates than do those in managed care or those who switch between the two sectors. We assume that this is because the Medicaid payment rates under fee-for-service are so low that providers are not bothering to submit bills to collect the co-payment. Hence, the Medicare bill is submitted, but we find no matching Medicaid claim. The higher rate of matching achieved with OHP encounter data is also noteworthy, given the difficulties encountered by the State in obtaining these data from plans (particularly in the first two years of OHP, which pre-date our study).

TABLE 3-5. Percentage of Medicare Part B Claims That Match to a Medicaid Medical Claim or Encounter For Dually Eligible Beneficiaries By Beneficiary Enrollment Status

Medicaid Status	Medicare Status			
	Mostly Fee-For-Service[1]	Mostly Managed Care[2]	Switchers[3]	Total
Mostly Fee-For-Service[1]	13%	15%	14%	13%
Mostly Managed Care[2]	49	34	30	45
Switchers[3]	29	21	26	28
Total	29	32	27	30

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.

NOTES:

1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

In an effort to determine why our matching rate was so low when we began with Medicare claims and looked for matching Medicaid data, we attempted the reverse: beginning with the Medicaid data and looking for matching Medicare claims. This also served as a double-check of the validity of our matching algorithm. Table 3-6 shows the percentage of the Medicaid claims and encounters that matched to Medicare claims. Overall, 38 percent of the Medicaid encounters had a matching Medicare claim. The overall match rate for Medicaid fee-for-service claims was lower at 24 percent. As expected, the matching rates for both encounters and fee-for-service claims were much lower for those in Medicare managed care, where no Medicare claims are generated.

TABLE 3-6. Percentage of Medicaid Medical Claims and Encounters That Match to a Medicare Part B Claim For Dually Eligible Beneficiaries By Beneficiary Enrollment Status				
Medicaid Status	**Medicare Status**			
	Mostly Fee-For-Service[1]	**Mostly Managed Care[2]**	**Switchers[3]**	**Total**
Medicare Status				
Mostly Fee-For-Service[1]	41%	8%	41%	39%
Mostly Managed Care[2]	52	12	19	38
Switchers[3]	49	6	21	41
Total	52	12	20	38
Medicaid Fee-For-Service Claims				
Mostly Fee-For-Service[1]	42%	8%	31%	38%
Mostly Managed Care[2]	27	9	14	18
Switchers[3]	33	7	23	29
Total	33	9	18	24

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.

NOTES:

1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

The low match rate we found on Table 3-6 is doubtlessly associated with the large number of claims and encounters in the Medicaid files for non-Medicare covered services. In order to clear up some of the "noise" associated with non-Medicare covered services (e.g., transportation, vision services, school based services) and DME (since we did not have access to the Medicare DME file), we re-ran the number of claims in each of the Medicaid files and the match rate excluding these services. The number of Medicaid encounters dropped by over 50,000 and the number of Medicaid fee-for-service claims dropped by over 150,000 (see Table 3-7). The match rates went up as well, but not as much as expected: the overall match rate of Medicaid encounters was 44 percent and for Medicaid fee-for-service claims was 38 percent (Table 3-8). However, for those dually eligible beneficiaries enrolled mostly in fee-for-service for both Medicare and Medicaid, the match rate was almost perfect: 97 percent. This implies that virtually every Medicaid claim for a service covered by Medicare had a matching Medicare claim. Since Medicare has primary responsibility for paying for these services, this result is not surprising--providers have a strong incentive to ensure that claims are submitted to the Medicare program. However, the large number of Medicaid fee-for-service mental health claims continues to drive the low match rate for the Medicaid fee-for-service file.

TABLE 3-7. Number of Medicaid Medical Claims and Encounters For Medicare Covered Services For Dually Eligible Beneficiaries By Beneficiary Enrollment Status				
Medicaid Status	**Medicare Status**			
	Mostly Fee-For-Service[1]	**Mostly Managed Care[2]**	**Switchers[3]**	**Total**
Medicaid Encounters				
Mostly Fee-For-Service[1]	4,984	354	86	5,424
Mostly Managed Care[2]	130,827	65,823	14,597	211,247
Switchers[3]	26,096	2,190	6,832	35,118
Total	161,907	68,367	21,515	251,789
Medicaid Fee-For-Service Claims				
Mostly Fee-For-Service[1]	35,912	2,938	335	39,185
Mostly Managed Care[2]	90,561	69,173	20,911	180,645
Switchers[3]	23,697	911	11,713	36,321
Total	150,170	73,022	32,959	256,151

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.

NOTES:

1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

TABLE 3-8. Percentage of Medicaid Medical Claims and Encounters That Match to a Medicare Part B Claim For Medicare Covered Services Only For Dually Eligible Beneficiaries By Beneficiary Enrollment Status				
Medicaid Status	**Medicare Status**			
	Mostly Fee-For-Service[1]	**Mostly Managed Care[2]**	**Switchers[3]**	**Total**
Medicaid Encounters				
Mostly Fee-For-Service[1]	44	7	47	42
Mostly Managed Care[2]	60	13	22	43
Switchers[3]	58	7	24	48
Total	59	13	23	44
Medicaid Fee-For-Service Claims				
Mostly Fee-For-Service[1]	97	32	57	91
Mostly Managed Care[2]	37	13	20	26
Switchers[3]	49	19	32	42
Total	53	14	25	38

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.

NOTES:

1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

In order to see what types of mental health services were being reported in the Medicaid fee-for-service file, we did a frequency on the procedure code field (Table 3-9). Sixty-six percent of these claims were for daily structure and support services and skill training services (non-Medicare covered services). The remainder ranged from

individual, group, and family therapy to medication management and personal care services.

Given the large number of Medicaid mental health claims that are for non-Medicare covered services, what covered services are matching? Table 3-10 shows the number of Medicare mental health claims by procedure code and the matching rates to Medicaid data. Medical management services had the highest rate of matching Medicare claims to Medicaid data at 65 percent, while half of the psychotherapy Medicare claims matched to Medicaid data, and 38 percent of mental health diagnosis and evaluation claims (CPT-4 code of 90801, 90820, or 90825) had matches. Given the 50 percent copayment for Medicare mental health services, we expected that the match rate would be greater than for other Medicare service categories. However, this does not explain the range among these types of services.

TABLE 3-9. Mental Health Claims on the Medicaid Fee-For-Service File for Dually Eligible Beneficiaries

	Number of Medicaid Fee-For-Service Claims	Percent
Individual Therapy for Adults	26,512	11.0%
Daily Structure and Support for Adults	86,306	38.8
Skills Training for Adults	73,585	30.5
Consultation for Adults	9,204	3.8
Medication Management for Adults	26,911	11.2
Mental Health Assessment for Adults	5,659	2.3
Family Therapy for Adults	759	0.3
Group Therapy for Adults	4,925	2.0
Mental Health Services for Children	72	0.0
Acute Care Non-Hospital for Acute Psychotic	1,159	0.5
Intensive Residential Rehabilitation	2,499	1.0
Personal Care	1,703	0.7
Other	1,721	0.7
TOTAL	**241,015**	**100.0**

SOURCE: OHP claims, 1996.

TABLE 3-10. Number of Medicare Part B Mental Health Claims by Procedure That Match to a Medicaid Medical Claim or Encounter

Procedure	Number of Medicare Claims	Number of Matches			
		To Fee-For-Service Claims	To Encounters	Total Matches	Percent Matching
Medical Management	10,515	5,184	1,681	6,865	65.3
Diagnosis and Evaluation	1,575	476	118	594	37.7
Psychotherapy	19,273	8,118	1,514	9,632	50.0
ECT	39	0	0	0	0.0
Biofeedback	10	4	0	4	40.0
TOTAL	**31,412**	**13,782**	**3,313**	**17,095**	**54.4**

SOURCES: Medicare Part B physician/supplier claims, Medicaid encounter data, and Medicaid claims, 1996.

3.2 Medicare and Medicaid Outpatient Files

Many of the same analyses that were generated for the Medicare Part B/Medicaid medical files were replicated for the outpatient files with even less success at matching claims. As seen in Table 3-11, there were 355,823 Medicare outpatient claims but only 57,090 Medicaid encounters and 4,206 Medicaid fee-for-service claims. Even if every Medicaid encounter or claim matched to a Medicare claim, the matching rate would be only 17 percent.

TABLE 3-11. Frequency of Procedure Codes for Dually Eligible Beneficiaries -- Medicare and Medicaid Outpatient Files

Procedure Code Group	Medicare		Medicaid Encounter		Medicaid Fee-for-Service	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Surgery	6,666	4.7%	1,537	5.8%	179	9.5%
Diagnostic Tests	29,135	20.6	7,084	26.8	315	16.8
Office Visits	17,089	12.1	1,780	6.7	193	10.3
Hospital Visits	1,243	0.9	218	0.8	19	1.0
ER Visits	11,016	7.8	4,451	16.8	182	9.7
Custodial Care	0	0.0	3	0.0	1	0.1
Home Health Visits	0	0.0	148	0.6	4	0.2
Physical and Speech Therapy	2,777	2.0	759	2.9	96	5.1
Mental Health Services	1,572	1.1	103	0.4	8	0.4
Pathology and Lab	144,976	102.7	14,076	53.2	1,327	70.6
Anesthesia	8	0.0	51	0.2	2	0.1
Transportation	38	0.0	49	0.2	0	0.0
Substance Abuse	0	0.0	86	0.3	0	0.0
DME	97	0.1	297	1.1	0	0.0
School Based Services	0	0.0	8	0.0	0	0.0
Vision Services	0	0.0	0	0.0	0	0.0
Other	141,206	100.0	26,440	100.0	1,880	100.0
Total	355,823	252.0	57,090	215.9	4,206	223.7

SOURCES: Medicare OPD claims, Medicare outpatient encounters and outpatient claims, 1996.

As seen in Table 3-12, the percent of Medicare claims that match to Medicaid claims and encounters was just under ten percent (9.8%), ranging from a high of 24 percent for emergency room visits to a low of nearly 7 percent for pathology and laboratory services. As in the Part B/Medical file analysis, we created several matching criteria based on the date of service, procedure code, revenue center code, and diagnosis. As in the previous analysis, we do not achieve significantly better matching rates by relaxing the criteria. It appears that the matching Medicaid claims and encounters do not exist because of low Medicaid reimbursement rates.

As in the Part B/medical files, most of the Medicare and Medicaid claims and encounters were for enrollees in Medicare fee-for-service (Table 3-13). Table 3-14 presents the match rates by Medicare/Medicaid enrollment status. The match rate for beneficiaries mostly in Medicaid fee-for-service (1 percent) is substantially lower than for those mostly in Medicaid managed care (19 percent). Presumably, this is again caused by low Medicaid fee-for-service payment rates, that deter providers from submitting a bill for reimbursement.

TABLE 3-12. Number of Medicare Outpatient Claims that Match to Medicaid Encounters and FFS Claims by Procedure Grouping

	Procedure Grouping													
	Surgery	**Diagnostic Tests**	**Office Visits**	**Hospital Visits**	**ER Visits**	**Custodial Care**	**HH Visits**	**Physical Therapy & Speech Therapy**	**Mental Health**	**Pathology and Lab**	**Anesthesia**	**Transport**	**Other Services**	**Total**
Medicare Claims that Match to Encounters														
Matching Criteria:														
Date, Proc., Rev. Ctr., and Dx	291	2,171	607	100	907	0	0	32	12	4,259	0	0	1,894	10,273
Date and Procedure	195	2,338	554	30	924	0	0	25	19	3,133	0	0	1,253	8,474
Date and Rev. Ctr.	373	44	838	46	607	0	0	242	60	353	0	0	8,674	11,237
Date and Dx	49	228	42	15	79	0	0	5	4	550	0	0	630	1,602
Date only	20	194	47	6	67	0	0	17	5	471	0	0	575	1,402
Date within 2 days	31	99	69	7	30	0	0	23	10	561	0	0	565	1,395
Total Matches	959	5,074	2,157	204	2,614	0	0	344	110	9,327	0	3	13,591	34,383
Medicare Claims that Match to Fee For Service Claims														
Matching Criteria:														
Date, Proc., Rev. Ctr., and Dx	2	13	12	0	5	0	0	0	0	28	0	0	25	85
Date and Procedure	2	9	3	1	4	0	0	0	0	52	0	0	28	99
Date and Rev. Ctr.	0	0	0	0	2	0	0	0	0	10	0	0	100	112
Date and Dx	0	0	2	0	0	0	0	2	0	2	0	0	8	4
Date only	0	2	6	0	1	0	0	2	0	74	0	0	23	108
Date within 2 days	1	4	4	0	0	0	0	7	0	50	0	0	61	127
Total Matches	5	28	27	1	12	0	0	11	0	216	0	3	245	545
Total in Class Matching	964	5,102	2,184	205	2,626	0	0	355	110	9,543	0	3	13,836	34,928
Total Medicare Claims in Class	6,666	29,135	17,089	1,243	11,016	0	0	2,777	1,572	144,976	8	38	141,303	355,823
Total % Match	14.5%	17.5%	12.8%	16.5%	23.8%	--	--	12.8%	7.0%	6.6%	0.0%	7.9%	9.8%	9.8%

SOURCES: Medicare OPD claims, Medicare outpatient encounters and outpatient claims, 1996.

Beginning with the Medicaid claims, and searching for a matching Medicare claim (Table 3-15), we find that the match rate is much higher for Medicaid encounters (60 percent), than for Medicaid claims (13 percent). The reason for this is not clear.

TABLE 3-13. Number of Outpatient Medicare Claims and Medicaid Outpatient Encounters and Fee-For-Service Claims for Dually Eligible Beneficiaries by Beneficiary Enrollment Status

Medicaid Status	Medicare Status			
	Mostly Fee-For-Service[1]	Mostly Managed Care[2]	Switchers[3]	Total
Medicare Claims				
Mostly Fee-For-Service[1]	141,534	7,134	1,977	150,645
Mostly Managed Care[2]	106,422	29,266	13,855	149,543
Switchers[3]	43,875	1,064	10,696	55,635
Total	291,831	37,464	26,528	355,823
Medicaid Encounters				
Mostly Fee-For-Service[1]	774	19	21	814
Mostly Managed Care[2]	30,218	12,472	3,488	46,178
Switchers[3]	7,498	168	2,432	10,098
Total	38,490	12,659	5,941	57,090
Medicaid Fee-For-Service Claims				
Mostly Fee-For-Service[1]	2,667	16	17	2,700
Mostly Managed Care[2]	272	1	35	308
Switchers[3]	1,091	3	104	1,198
Total	4,030	20	156	4,206

SOURCES: Medicare OPD claims, Medicare outpatient encounters and outpatient claims, 1996.

NOTES:
1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

TABLE 3-14. Percentage of Medicare Outpatient Claims That Match to a Medicaid Outpatient Claim or Encounter For Dually Eligible Beneficiaries By Beneficiary Enrollment Status

Medicaid Status	Medicare Status			
	Mostly Fee-For-Service[1]	Mostly Managed Care[2]	Switchers[3]	Total
Mostly Fee-For-Service[1]	1	0	1	1
Mostly Managed Care[2]	19	19	12	19
Switchers[3]	11	5	12	11
Total	9	15	11	10

SOURCES: Medicare OPD claims, Medicare outpatient encounters and outpatient claims, 1996.

NOTES:
1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

TABLE 3-15. Percentage of Medicaid Outpatient Encounters and Fee-For-Service Claims That Match to a Medicare Part B Claim For Dually Eligible Beneficiaries by Beneficiary Enrollment Status				
Medicaid Status	**Medicare Status**			
	Mostly Fee-For-Service[1]	**Mostly Managed Care[2]**	**Switchers[3]**	**Total**
Medicaid Encounters				
Mostly Fee-For-Service[1]	58	79	57	59
Mostly Managed Care[2]	68	44	46	60
Switchers[3]	65	29	55	62
Total	67	44	50	60
Medicaid Fee-For-Service Claims				
Mostly Fee-For-Service[1]	15	0	0	15
Mostly Managed Care[2]	3	0	40	7
Switchers[3]	11	0	0	10
Total	13	0	26	13

SOURCES: Medicare OPD claims, Medicare outpatient encounters and outpatient claims, 1996.

NOTES:

1. Enrolled in managed care for fewer than three months of the year.
2. Enrolled in managed care for more than nine months of the year.
3. Enrolled in managed care for more than two months, but less than ten months.

3.3 Medicare and Medicaid Inpatient Files

The most surprising results were for the inpatient files. We expected a much higher rate of matches between the Medicare inpatient claims and the Medicaid encounters and fee-for-service claims than we had found on the physician and outpatient files for two reasons. First, we selected only Medicare inpatient claims that had a positive co-payment or deductible, which should be covered for dually eligible beneficiaries under the Medicaid program. Second, the deductible for inpatient services is a substantial amount ($736 in 1996). However, we found that of the 10,967 Medicare inpatient claims that met these criteria, fewer than 18 percent matched to a Medicaid fee-for-service claim or encounter (Table 3-16). This match rate was obtained using very liberal criteria -- the Medicaid inpatient encounter had to have an admission date within seven days of the admission rate found on the Medicare inpatient claim. Using more stringent matching conditions, such as diagnosis or DRG, would have significantly decreased the matching rate. For example, of the 94 additional Medicare claims that matched to Medicaid encounters when we allowed matches for dates of admission within seven days of each other, only 25 had identical DRGs on the Medicare and Medicaid files.

TABLE 3-16. Number of Medicare Inpatient Claims that Match to a Medicaid Inpatient Encounter or Claim For Dually Eligible Beneficiaries	
Medicare Claims that Match to Medicaid Encounters	
Matching Criteria	
Date of Admission	1,837
Date within 7 days	94
Total Matches	1,931
Medicare Claims that Match to Medicaid Fee-For-Service Claims	
Matching Criteria	
Date of Admission	4
Date within 7 days	0
Total Matches	4
Total Matches	1,935
Total Medicare Claims	10,967
Total % Match	17.6%
SOURCES: Medicare Part A hospital claims, Medicaid inpatient encounters, and Medicaid inpatient claims, 1996.	

4. CONCLUSIONS

This project was conceived as a feasibility study to determine whether individual Medicare and Medicaid claims for dually eligible beneficiaries could be merged. For three types of data, physician, outpatient, and inpatient, we attempted to merge Medicare claims to matching Medicaid claims and encounters. For physician claims, we also attempted the converse: beginning with Medicaid claims and encounters, we tried to locate a matching Medicare claim. Multiple criteria were used to ascertain whether claims matched, beginning with very strict criteria (that required exact matches of multiple fields) which were then systematically relaxed.

Our results indicate that most Medicare claims do not generate a matching Medicaid claim/encounter. The overall match rates we found were 29 percent for physician services, 10 percent for outpatient department services, and 18 percent for inpatient stays. Surprisingly, even Medicare services with relatively large deductibles and copayments (such as inpatient stays or expensive surgical procedures) yielded low matching rates. These findings support the low Medicaid reimbursement theory: that Medicaid payment rates in the state are sufficiently low that the Medicare program payment amount (less the deductible and copayments) exceeds the Medicaid rate for many services.[3] Thus, hospitals and physicians have no incentive to submit bills to Medicaid, since they will yield no additional payment beyond what is received from Medicare. This may also be the case if the Medicaid payment would be a small amount; the resources devoted to submitting the bill may exceed the expected payment. Conversations with state Medicaid officials support this theory.

Our matching results also indicate that neither database by itself, either Medicare or Medicaid, provides a very complete picture of the medical services that are being received by the dually eligible population. In addition to having many Medicare claims with no matching Medicaid data, we also found that there were many Medicaid medical claims and encounters that did not match to any Medicare claims. This results from the heavy utilization of services that are not covered by Medicare, particularly prescription drugs, transportation, mental health, and vision services for prescription glasses.

Another issue to keep in mind is the variability across plans in Oregon. Oregon is one of three states (with Arizona and Minnesota being the other two) that has received a waiver from the federal government allowing the state to have more stringent cost-sharing criteria for dual eligibles enrolled in managed care. This waiver provides the state with the authority to refuse to pay any Medicare cost-sharing for dually eligible beneficiaries receiving Medicaid services outside their Medicaid HMO's network (http://www.geron.org, 1998; http://www.hcfa.gov, 1999). Managed care plans in Oregon vary, however, in the extent to which they actually adhere to this provision.

[3] The low Medicaid reimbursement theory is only applicable for fee-for-service claims. Because Medicaid managed care plans created their own reimbursement arrangements with providers, we have no way of knowing how providers are being paid by the plans.

Some plans choose to pay the bill in order to maintain good customer relations, while others enforce the out-of-network provision more stringently.

Finally, despite the relatively low matching rates, it should be noted that Medicare and Medicaid claims can *still* provide a detailed composite picture of medical care utilization for most dually eligible beneficiaries. It is not necessary to link the claims or encounters for deductibles and copayments in order to describe the services used by dually eligible beneficiaries. Medicare claims provide data on hospital, outpatient, and physician utilization, while Medicaid claims and encounters provide data on services not covered by Medicare. Unfortunately, Medicaid claims and encounters can not be used to impute the missing utilization data for those dually eligible beneficiaries enrolled in Medicare HMOs.

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