

Estimates of Dual and Full Medicaid Benefit Dual Enrollees, 1999

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INTRODUCTION

There is a clear need to develop better estimates of dual (Medicare and Medicaid) enrollees and the subpopulation of dual enrollees who receive full Medicaid benefits. Dual enrollees that may receive full Medicaid benefits include: qualified Medicare beneficiaries (QMBs), specified low-income Medicare beneficiaries (SLMBs), and other dual beneficiaries—a group that includes medically needy/spend-down enrollees. Better estimates are needed for a number of activities:

- A need to improve coordination of public funds from Medicare and Medicaid to meet the service needs of these vulnerable populations.
- Continuing increases in utilization and program spending for these vulnerable populations, especially dual disabled enrollees. These spending increases are straining Medicaid budgets in times that States are in fiscal crisis.
- A need for baseline estimates of State spending amounts for prescription drugs provided to dual enrollees by Medicaid to support cost estimates for these populations once drug coverage for these groups begins in 2006 under Medicare.
- A need to monitor changes in utilization and spending levels for dual enrollees under Medicaid.

The estimates shown in the tables are not official CMS estimates and should not be construed to represent data used for purposes of implementing the provisions of Section 103 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (Public Law 108-173) relating to the Federal assumption of Medicaid prescription drug costs for dual enrollees.

NEED TO LINK MEDICARE AND MEDICAID DATA

Neither the Medicare nor the Medicaid systems, by themselves, permit complete and accurate reporting of dual enrollees.

Medicare

The Medicare system maintains data on persons enrolled in Medicaid and for whom Medicaid has paid the Medicare Part A and B insurance premiums in the enrollment database (EDB). Historically, these third-party liability data were housed in a Medicare data set commonly known as the TPEarth file (or the third party buy-in). Data from these Medicare systems have traditionally represented an undercount of all dual enrollees because States do not necessarily pay Medicare premiums for all dual enrollees.

Medicaid

The Medicaid analytic extract (MAX) data include two possible data elements that may identify dual enrollees. The first is

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the “dual eligibility flag.” In its current form, this data element was first required of State Medicaid agencies beginning with fiscal year (FY) 1999 reporting under the Medicaid statistical information system (MSIS), the source for MAX data. Data quality may vary substantially from State-to-State for this data element. The second is a pair of data elements that report Medicare deductible and coinsurance payment amounts paid by Medicaid for a dual enrollee on an individual claim. Again, data quality is uncertain because reporting of these amounts was also required of State Medicaid agencies for the first time, beginning with FY 1999.

MEDICARE AND MEDICAID LINK

The source data for the most recent link are the Medicaid MAX data for calendar year (CY) 1999 and the Medicare EDB for the 50 States and Washington, DC. In order to maximize the quality of the linking process, the Medicare health insurance claim (HIC) was not used as a primary linking variable. Instead, the linking criteria use the Medicaid enrollees’ Social Security Number (SSN), date of birth (DOB), and sex. The link effort begins with Medicaid MAX data and consists of two steps:

- The first step has different criteria for aged versus disabled Medicaid enrollees. For aged Medicaid enrollees, SSN, and sex must match exactly. For disabled Medicaid beneficiaries, either the enrollees’ SSN or the DOB must match exactly, or SSN and sex must match exactly, and two of the three elements in DOB must match exactly.
- In the second step, there is an attempt to link the Medicaid SSN to a claim account number (CAN) from the HIC in the EDB for records that were not linked in the first step. This is done because some enrollees incorrectly report the CAN

from an account on which they receive auxiliary benefits (as a spouse, widow, child, etc.) as their own SSN. For example, a spouse will report her husband’s SSN as though it were her SSN. A check on sex and DOB assures that a correct link is made.

Once it is determined that the enrollee appears in both the MSIS and EDB data sets, it is necessary to determine if the enrollee was eligible for both programs at the same time.

- For each MAX eligibility record, month-by-month Medicaid enrollment is compared to repeating segments of Medicare enrollment. A dual indicator is set whenever an overlap occurs. An annual (CY) dual indicator is set if the dual indicator for any month is set. The result is an enhanced MAX eligibility data set that includes information about the results of the EDB link.
- For persons identified as dual enrollees, selected data elements from the EDB are added to the Medicaid enrollment data. Because this is a Medicaid database, all MAX records are retained. However, information on dual enrollment status is not retained if the EDB contains an indication of dual enrollment status, but there is no record in the MAX file for the enrolled person.

COUNTING DUAL ENROLLEES USING MAX DATA

Following the EDB link, the MAX data provides counts of confirmed dual enrollees, by State. There is the potential for bias both in terms of undercounting and overcounting. The potential for undercounting may be caused by one or more of several factors: (1) the record for a dual enrollee may have been missing from either the EDB or the MAX file, (2) SSN may have been missing in the MAX file, or

(3) there may have been errors or number transpositions in the recorded SSN. The possibility of overcounting is not as likely, but could be caused if an enrollee moved to a different State during the year because the MAX data are State-specific data sets. Because of this, there has been no attempt to unduplicate persons across States.

Estimates include adjustments for under-counting persons reported as dual by Medicaid, but not linked with an SSN or with incorrect/non-matching SSNs. However, estimates do not include adjustments for undercounting of persons reported as dual enrollee by Medicare, but not linked to Medicaid (e.g. persons on Medicare TPEarth). The estimates do not adjust for over-counting that may occur if the Medicaid person was enrolled in more than one State or if more than one person was identified with the same SSN in Medicaid. In both cases where adjustments were not made, the extent of overcounting and/or undercounting should be extremely minor and offsetting.

DUAL ELIGIBLE COUNTS— ADJUSTING FOR BIAS

Two sets of State-specific estimates are produced in Table 1. The first set is known as the “best estimate.” It consists of enrollees confirmed to be dual enrollees as a result of the EDB link and selected Medicaid enrollees not linked to EDB (those identified as dual enrollees by Medicaid and having at least one claim in the year where Medicare copayment and/or deductible was paid by Medicaid in 1999). The second set of estimates is known as the “upper bound estimate.” It consists of enrollees confirmed to be dual enrollees as a result of the EDB link and selected Medicaid enrollees not linked to EDB (those identified as dual enrollees by Medicaid or having at least one claim in

the year where Medicare copayment and/or deductible was paid by Medicaid. Because of data inconsistencies for several States, these estimates are adjusted to not exceed the total number of aged and disabled enrollees in each State.

Estimating Full Medicaid Benefit

Currently it is not possible to estimate full Medicaid benefit dual enrollees using Medicare data alone. However, there are two Medicaid data elements that are used to increase the accuracy of these estimates.

The first of these data elements is the dual eligible flag. This data element was first required in MSIS reporting for FY 1999. While MSIS has established a 2-percent error tolerance for this data element; reporting remains inconsistent. One State (Pennsylvania) did not report dual enrollment status. Five other States (Georgia, Ohio, Rhode Island, Tennessee, and West Virginia) reported no full Medicaid dual enrollees. Findings for these six States are inconsistent with national estimates that about 90 percent of all dual enrollees are full Medicaid dual enrollees. However, the most pervasive data reporting problem for this data element was that many States reported dual eligibility status of unknown for a high percentage of their dual enrollees. Based on MAX data for 1999, 21 States reported greater than 20 percent of dual enrollment status of unknown. Among those States, 11 reported greater than 50 percent unknown.

There are two estimates of full Medicaid benefit dual enrollees that are produced using this data element (Table 2). The first estimate, known as the “lower bound estimate”, assumes that dual enrollees of unknown type are distributed according to the same percentages as those for whom type is known. This assumption becomes

questionable as the percentage of dual enrollees of unknown type grows, but it does establish a lower bound for the number of full Medicaid benefit dual enrollees. The second estimate, known as the “best estimate”, assumes that all dual enrollees of unknown type are full Medicaid benefit dual enrollees. This is a reasonable assumption because, as noted previously in the national estimates, about 90 percent of all dual enrollees are full Medicaid benefit dual enrollees. Also, it is likely that States would have correctly identified dual enrollees who do not receive full Medicaid benefits because of the need they have to coordinate coverage and reimbursement with Medicare.

The second data element is the “restricted benefits flag.” As with the dual eligible flag, this data element was first reported by States, in MSIS for FY 1999. While this data element has a 5-percent error tolerance for States, it is reported that data quality is questionable (Ellwood, 2004). A code value of 3 for this data element indicates that the person is enrolled in Medicaid, but only entitled to restricted benefits based on Medicare dual-eligibility status (e.g. QMB only, SLMB only, qualified disabled and working individuals—QDWIs or qualifying individuals—QI1s or QI2s) (Centers for Medicare & Medicaid Services, 2004a). An estimate of full Medicaid benefit dual enrollees is made using this data element to subtract numbers of dual enrollees with restricted benefits from the total numbers of dual enrollees. These estimates are also shown in Table 2.

CONCLUSION

As a best estimate, there were about 6.881 million dual enrollees, nationally, ever enrolled in both Medicare and Medicaid during 1999. This represented

about 16.2 percent of all Medicaid enrollees. An upper bound estimate was 7.288 million dual enrollees.

Because the quality of reporting was uncertain for data elements used to estimate full Medicaid benefit dual enrollees, the reliability of those estimates is less certain than the estimates of all dual enrollees. However, the estimates of full Medicaid dual enrollees ranged from a lower bound estimate of 5.916 million (86.0 percent of all dual enrollees) to a best estimate of 6.091 million (88.5 percent of all dual enrollees).

DISCUSSION

These estimates of dual enrollees compare favorably with estimates from other sources:

- An estimate for FY 1999 is 6.982 million duals, using an actuarial rules of thumb regarding the percentage of aged and disabled who are dual enrollees (95 percent of Medicaid aged and 40 percent of Medicaid disabled beneficiaries) on reported FY 1999 MSIS summary statistics (Klemm, 2004; Centers for Medicare & Medicaid Services, 2004b). The data reported in this article are quite close to this estimate because both estimates are counts of enrollees ever enrolled in a year. The primary difference is that one estimate is for CY 1999 and the other is for FY 1999.
- The Kaiser Commission on Medicaid and the Uninsured (2003) reported 5.84 million full Medicaid dual enrollees for FY 2000. Colleagues Bruen and Holahan (2004) reported 7.2 million dual enrollees and 6.13 million full Medicaid dual enrollees for 2002. These estimates are also counts of persons ever enrolled in a year.
- The Henry J. Kaiser Family Foundation (2004) reported 5.8 million dual enrollees as of the August 2002 billing

cycle, reflecting enrollment as of June 2002. Estimates of dual enrollees for the first quarter of FY 1999 were 5.46 million (Ellwood, 2002). Using a similar methodology, Ku (2003) estimated 5.4 million full Medicaid dual enrollees in 1999. The *Medicaid Chart Book* reports an average number of 6.4 million dual enrollees during CY 2000 (Centers for Medicare & Medicaid Services, 2003). Data from the Medicare Current Beneficiary Survey in 1999 show 6.277 million persons with health insurance coverage through Medicaid (either as Medicare buy-in individuals or as reported by survey respondents). Clark and Hulbert (1998) reported between 6.4 and 6.7 million dual enrollees for 1997, using (form) HCFA-2082 reports that were actuarially adjusted to represent person years of enrollment and to approximate average monthly enrollment. It is reasonable that estimates reported here should be higher than these quarterly, monthly, or point-in-time estimates because of enrollment turnover through the year.

- Finally, Dale and Verdier (2003) estimated that there were 6 million dual enrollees in 2002.

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Table 1
Estimates of Medicaid Dual Enrollees Ever Enrolled, by State: Calendar Year 1999

State	Total Medicaid Enrollees	Confirmed Dual Enrollees ¹	Best Estimate of Dual Enrollees ^{2,4}	Dual Enrollees (Best Estimate) as a Percent of Total Enrollees	Upper Bound Estimate of Dual Enrollees ^{3,4}
Alabama	657,495	152,607	153,670	23.4	159,183
Alaska	103,789	9,756	9,807	9.4	9,931
Arizona	648,016	60,683	61,032	9.4	66,118
Arkansas	491,245	92,080	95,611	19.5	121,518
California	7,288,627	897,559	901,639	12.4	911,450
Colorado	357,814	65,503	65,889	18.4	67,422
Connecticut	417,767	80,036	80,620	19.3	81,147
Delaware	116,454	14,038	14,147	12.1	14,341
District of Columbia	146,668	17,334	17,507	11.9	19,063
Florida	2,104,306	375,666	377,811	18.0	380,456
Georgia	1,249,063	195,687	197,542	15.8	199,573
Hawaii	199,173	24,862	25,048	12.6	40,364
Idaho	134,065	18,889	18,924	14.1	19,057
Illinois	1,712,826	217,700	219,437	12.8	221,400
Indiana	694,508	116,613	117,168	16.9	118,548
Iowa	313,720	64,155	64,555	20.6	65,542
Kansas	256,690	51,714	51,979	20.2	53,222
Kentucky	687,437	140,341	141,612	20.6	208,686
Louisiana	786,601	132,446	133,604	17.0	135,371
Maine	204,329	48,226	48,364	23.7	49,977
Maryland	686,834	85,887	86,628	12.6	89,249
Massachusetts	1,060,289	204,531	205,797	19.4	207,579
Michigan	1,339,452	204,389	205,323	15.3	222,843
Minnesota	591,427	96,760	97,234	16.4	98,038
Mississippi	552,951	125,374	126,330	22.8	217,657
Missouri	898,028	151,206	152,305	17.0	155,259
Montana	96,453	17,009	17,153	17.8	17,350
Nebraska	227,395	35,359	35,541	15.6	35,800
Nevada	139,700	23,941	24,085	17.2	26,132
New Hampshire	106,887	19,411	19,561	18.3	20,339
New Jersey	869,612	178,150	179,285	20.6	185,313
New Mexico	378,433	39,530	39,794	10.5	40,137
New York	3,403,171	562,166	578,402	17.0	600,751
North Carolina	1,209,799	261,684	263,206	21.8	269,374
North Dakota	61,806	14,182	14,250	23.1	14,313
Ohio	1,386,016	219,622	221,151	16.0	223,170
Oklahoma	533,438	89,656	90,213	16.9	114,432
Oregon	543,964	67,508	67,759	12.5	71,278
Pennsylvania	1,694,804	290,403	290,403	17.1	290,403
Rhode Island	169,491	31,518	31,670	18.7	31,936
South Carolina	757,964	119,023	120,444	15.9	122,667
South Dakota	95,437	17,161	17,236	18.1	17,488
Tennessee	1,541,222	253,772	255,027	16.5	304,033
Texas	2,710,200	464,601	467,926	17.3	484,020
Utah	202,235	20,307	20,366	10.1	20,649
Vermont	142,051	26,807	26,897	18.9	27,171
Virginia	696,419	139,649	141,355	20.3	142,509
Washington	899,702	104,903	105,560	11.7	109,131
West Virginia	358,317	55,708	56,291	15.7	57,507
Wisconsin	575,138	119,366	120,078	20.9	120,710
Wyoming	52,177	7,961	7,987	15.3	8,051
50 States and Washington, DC	42,551,405	6,823,439	6,881,223	16.2	7,287,658

¹ Dual enrollment status was confirmed by a link between Medicaid analytic extract (MAX) and Medicare enrollment data base (EDB) data for 1999.

² Confirmed dual enrollees and non-confirmed Medicaid enrollees who were identified as dual enrollees by Medicaid and had at least one claim with Medicare copayment and deductible amounts paid by Medicaid.

³ Confirmed dual enrollees and non-confirmed Medicaid enrollees who were identified as dual enrollees by Medicaid or had at least one claim with Medicare copayment and/or deductible amounts paid by Medicaid.

⁴ Because of data inconsistencies for several States, this estimate is adjusted to not exceed the total number of aged and disabled enrollees in each State.

SOURCE: Centers for Medicare & Medicaid Services: Medicaid Analytic Extract (MAX) data, 2004.

Table 2
Estimates of Full Medicaid Benefit Dual Enrollees Ever Enrolled, by State: Calendar Year 1999

State	Best Estimate of Dual Enrollees	Lower Bound Estimate of Full Medicaid Dual Enrollees ^{1,2}	Best Estimate of Full Medicaid Dual Enrollees ^{1,3}	Full Dual Enrollees (Best Estimate) as a Percent of Dual Enrollees	Full Dual Enrollees Estimate (Using Restricted Benefits) ⁴
Alabama	153,670	103,069	110,921	72.2	107,468
Alaska	9,807	9,715	9,732	99.2	9,744
Arizona	61,032	39,908	47,191	77.3	52,089
Arkansas	95,611	74,745	74,745	78.2	71,745
California	901,639	883,585	883,604	98.0	884,405
Colorado	65,889	51,637	54,834	83.2	54,579
Connecticut	80,620	72,398	74,932	92.9	74,565
Delaware	14,147	8,038	9,895	69.9	9,887
District of Columbia	17,507	17,507	17,507	100.0	17,507
Florida	377,811	355,983	355,983	94.2	356,550
Georgia	197,542	169,846	174,858	88.5	148,542
Hawaii	25,048	24,966	24,972	99.7	24,974
Idaho	18,924	15,205	15,205	80.3	15,958
Illinois	219,437	154,097	158,821	72.4	154,956
Indiana	117,168	100,996	100,996	86.2	100,883
Iowa	64,555	50,637	53,523	82.9	52,459
Kansas	51,979	45,106	45,106	86.8	44,736
Kentucky	141,612	97,177	101,423	71.6	103,784
Louisiana	133,604	111,718	111,718	83.6	111,238
Maine	48,364	42,434	42,434	87.7	41,979
Maryland	86,628	68,575	68,646	79.2	68,235
Massachusetts	205,797	166,827	191,568	93.1	194,351
Michigan	205,323	150,356	182,483	88.9	188,533
Minnesota	97,234	81,393	84,768	87.2	87,885
Mississippi	126,330	118,924	118,924	94.1	116,616
Missouri	152,305	137,478	137,478	90.3	134,407
Montana	17,153	16,525	16,532	96.4	16,515
Nebraska	35,541	33,844	33,878	95.3	33,896
Nevada	24,085	14,746	14,746	61.2	13,837
New Hampshire	19,561	18,517	18,517	94.7	18,695
New Jersey	179,285	147,286	151,920	84.7	151,223
New Mexico	39,794	12,912	29,041	73.0	30,790
New York	578,402	575,309	577,173	99.8	576,119
North Carolina	263,206	226,469	228,868	87.0	226,765
North Dakota	14,250	7,758	13,087	91.8	13,147
Ohio	221,151	190,145	195,756	88.5	190,463
Oklahoma	90,213	74,087	74,087	82.1	71,529
Oregon	67,759	47,654	52,466	77.4	60,197
Pennsylvania	290,403	249,688	257,056	88.5	261,546
Rhode Island	31,670	27,230	28,033	88.5	29,808
South Carolina	120,444	120,444	120,444	100.0	120,444
South Dakota	17,236	9,576	13,732	79.7	13,065
Tennessee	255,027	219,272	225,742	88.5	195,492
Texas	467,926	376,012	380,162	81.2	367,049
Utah	20,366	17,729	17,729	87.1	18,326
Vermont	26,897	25,802	26,159	97.3	26,897
Virginia	141,355	97,551	99,450	70.4	95,855
Washington	105,560	88,168	93,985	89.0	92,775
West Virginia	56,291	48,399	49,827	88.5	42,895
Wisconsin	120,078	114,405	114,405	95.3	113,842
Wyoming	7,987	4,614	5,984	74.9	5,686
50 States and Washington, DC	6,881,223	5,916,462	6,091,049	88.5	6,014,927

¹ Dual enrollment status was confirmed by a link between Medicaid analytic extract (MAX) and Medicare enrollment data base (EDB) data for 1999. Estimates of full Medicaid dual enrollees were based on distributions of person-years of enrollment by code values of the Medicaid statistical information system (MSIS) data element "dual eligibility flag," as reported in MAX validation reports.

² Estimates consist of confirmed full dual enrollees plus a percentage of unconfirmed dual enrollees with MAX dual eligibility flag values of 50 (dual status was indicated by the EDB, but not MAX) and 59 (dual status was indicated by the EDB and unknown in MAX).

³ Estimates consist of confirmed full dual enrollees, all unconfirmed dual enrollees with a MAX dual eligibility flag value of 59 (dual status was indicated by the EDB and unknown in MAX) plus a percentage of unconfirmed dual enrollees with MAX dual eligibility flag value of 50 (dual status was indicated by the EDB, but not MAX).

⁴ Estimates consist of dual enrollees with restricted benefits as reported in the MAX data element restricted benefits flag.

SOURCE: Centers for Medicare & Medicaid Services: Medicaid Analytic Extract (MAX) data, 2004.