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June 9, 1997

The Honorable Daniel Patrick Moynihan
United States Senate

The Honorable Alfonse M. D'Amato
United States Senate

Subject: Medicaid Matching Formula: Effects of Need Indicators on New York's Funding

This letter responds to your request of April 29, 1997, for an analysis of what New York's federal Medicaid matching percentage and funding would have been if the current matching formula had included certain factors that affect state financing burdens, such as the number of people in poverty and the cost of health care services.

The current Federal Medical Assistance Percentage (FMAP) is based on the per capita income of the state compared with the per capita income of all states. Under current law, no state can receive a matching percentage that is less than 50 percent or more than 83 percent. In fiscal year 1996, Mississippi had the lowest income and qualified for a matching percentage of 78 percent. Because of their above average per capita income, New York and 11 other states received the minimum 50-percent match.

In testimony before the Finance Committee in July 1995, we noted that the legislative history of the matching formula suggests that higher matching rates were granted to low-income states in an effort to offset their greater financing burden compared with states with larger tax bases. However, state financing burdens continue to vary because the matching formula does not fully account for state poverty counts, the cost of health care services, and the concentration of high-cost recipients (for example, the elderly and people with disabilities). While data on these indicators were not available when the current matching formula was adopted into law, they are available today.

As you requested, we calculated federal matching percentages based on four factors affecting state financing burdens: (1) state tax bases, (2) the number of low-income residents living in poverty, (3) the cost of delivering health care

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services, and (4) the concentration of elderly and disabled recipients. However, we were unable to take state differences in the cost of living into account in measuring the number of low-income residents, as you had requested. Instead, we used the official poverty counts reported by the Bureau of the Census.¹

To measure the cost of health care services, we used two different indicators: (1) an index of hourly wages paid to hospital workers compiled by the Health Care Financing Administration (HCFA) that is used in the Medicare Hospital Reimbursement program and (2) an index of wages per worker in the health care industry that is compiled by the Bureau of Labor Statistics (BLS). Because the two measures differ in the degree to which they show New York to be a high-cost state, we did our analysis using both measures.² Finally, we developed an indicator to measure the extent to which the state's caseload is composed of those who are comparatively more expensive to serve—elderly and disabled people.³ We conducted our work during May of 1997. Except that we did not verify data obtained electronically from federal agencies, we did our work in accordance with generally accepted government auditing standards.

In brief, we estimate that had the Medicaid matching formula reflected poverty and other factors affecting state financing burdens between fiscal years 1989 and 1996, New York's matching percentage would have fluctuated between 50 and 60 percent, depending on the particular year in question and the indexes used. On the basis of these rates, we estimate that the state would have received between \$3.4 billion and \$6.5 billion in additional federal assistance

¹Official poverty counts do not take into account state differences in the cost of living, and experts disagree on how this might best be done. However, cost-of-living measures examined in our report, Poverty Measurement: Adjusting for Cost-of-Living Differences, (GAO/GGD-95-64, Mar. 9, 1995), indicate that New York is a high cost-of-living state. Consequently, our estimates of New York's matching percentage and increases in federal funding are understated compared with what would prevail if such differences were reflected in the official poverty counts.

²We were able to obtain data for HCFA's survey of hospital workers for the years 1988 through 1993. For years prior to 1988, we used BLS wage data to reflect the cost of services. See enc. I for a more detailed discussion of the strengths and weaknesses of the HCFA and BLS wage cost factors.

³See enc. II for a more detailed description of how we constructed this caseload indicator.

during this period.⁴ Because recent trends in poverty and health care costs have adversely affected the state's financing burden, the state's matching percentage would continue to increase in fiscal years 1997 and 1998. With a modified matching formula we estimate federal funding for New York's Medicaid program would be between \$4.9 billion and \$7.2 billion higher than under the current formula based on projected spending for these years.

IMPACT OF FACTORS AFFECTING STATE FINANCING
BURDENS ON NEW YORK

Trends in each of the factors affecting New York's Medicaid financing burden are summarized in table 1 for the years 1986 to 1995. Each factor was expressed as a percentage of the corresponding U.S. average to facilitate a comparison of state trends relative with other states.

⁴Spending for each year between 1989 and 1996 was adjusted to represent the purchasing power of 1996 dollars for the United States using the medical care component of personal consumption expenditures from the National Income and Product Accounts published by the Department of Commerce.

Table 1: Trends in Factors Affecting New York's Medicaid Financing Burden

Calendar year ^a	Total taxable resources index	Poverty index	Cost index (BLS)	Cost index (HCFA)	Caseload index ^b
1995	119	115	109	NA	104
1994	119	110	109	NA	104
1993	119	106	108	120	103
1992	119	106	108	120	102
1991	119	104	107	120	102
1990	119	102	107	119	101
1989	119	102	106	NA	100
1988	119	101	105	NA	100
1987	117	105	105	NA	99
1986	115	107	105	NA	99

Note: NA means data were not available.

^aAll variables are computed based on 3-year averages to improve the reliability of the estimates and reflect the underlying trends in the data.

^bBased on federal fiscal years.

New York's tax base, as measured by its TTR, compared with the national average has remained stable since 1988. Trends in New York's poverty rate, health care costs, and caseloads, however, have all worsened compared with the national average. Relative poverty rates, after declining in the late 1980s, have steadily increased, rising from 1 percent above the national average in 1990 to 15 percent above average in 1995. Wage costs of workers in the health care industry, compiled by BLS, have risen from 5 to 9 percent above the

national average between 1986 and 1995.⁵ Finally, though less dramatic, there has been a steady increase in high-cost recipients served by New York's program, relative to other states, increasing from just below the national average in 1984 to about 4 percent above the national average.

AFFECT OF NEED FACTORS ON MEDICAID
FUNDING FOR NEW YORK

If the federal matching formula had been designed to account for the financing burden of states, New York's matching percentage would have been higher than the 50-percent minimum in all but 1 year since 1989. Using the information in table 1, we have estimated what New York's matching percentage would have been had these factors been taken into account in calculating federal matching percentages.⁶ Separate calculations were made using cost adjustments based on the HCFA and BLS wage surveys. The results of these calculations are shown in table 2.⁷

⁵The cost of hospital workers based on HCFA surveys is substantially higher than the cost of health care industry workers as reported by BLS. Because of the limited availability of data from the HCFA survey, we are unable to compare the trend in this measure of the cost of health care services.

⁶Title XIX, section 1905 of the Social Security Act requires that state FMAPs be calculated 2 years prior to the fiscal year in which they will be used. The legislation also requires that the most recently available per capita income data be used in these calculations. Because of these lags, each year's matching percentage reflects data that are from 3 or more years prior to the period for which they are used to calculate federal reimbursements of state Medicaid spending. We included a comparable lag in our calculation of alternative matching rates. For example, fiscal year 1996 matching percentages were calculated based on TTR, poverty, cost, and caseload data that would have been available in 1993.

⁷Data for health care costs based on the HCFA wage cost index were only available for selected years as reported in table 1. We used the corresponding BLS wage cost index for the years prior to 1988 for calculating matching percentages based on HCFA wage data.

Table 2: Current and Alternative Federal Medical Assistance Percentages (Fiscal Years 1989-96)

Numbers in percent

Fiscal Year	Current FMAP	New FMAP (BLS index)	New FMAP (HCFA index) ^a
1996	50.0	55.2	59.5
1995	50.0	53.7	57.9
1994	50.0	52.4	55.1
1993	50.0	51.0	52.4
1992	50.0	50.5	50.5
1991	50.0	50.0	50.0
1990	50.0	51.7	51.7
1989	50.0	53.2	53.2

^aBLS wage data were used for the years that HCFA data were not available (see table 1).

If all factors affecting state financing burdens were reflected in the matching formula, New York would have received higher matching percentages in most years. Because of the upward trends in poverty, health care costs, and a more expensive caseload, the matching percentage would have risen from 50 percent in fiscal year 1991 to 60 percent in 1996, based on the BLS wage cost index. If matching percentages were calculated on the basis of HCFA hospital wage surveys, the matching percentage would have increased to nearly 60 percent.

If these higher matching percentages had been used to reimburse the state for its Medicaid expenses, the state would have received additional federal assistance as shown in table 3. We estimate that between 1989 and 1996, New York would have received \$3.4 billion in additional assistance in real dollars,

based on using the BLS health industry wage index.⁸ If wage costs were measured using the data from the HCFA hospital workers' wage survey, the state would have received an additional \$6.5 billion.

Table 3: Estimated Increase in New York's Funding if the Matching Formula Had Been Designed to Equalize State Financing Burdens (Fiscal Years 1989-96)

Dollars in millions

Fiscal year	FMAP based on BLS wage costs		FMAP based on HCFA wage costs	
	Increase	Cumulative increase	Increase	Cumulative increase
1996	\$1,271	\$1,271	\$2,386	\$2,386
1995	843	2,115	1,871	4,258
1994	492	2,606	1,106	5,364
1993	156	2,762	472	5,836
1992	36	2,798	36	5,872
1991	-60 ^a	2,738	-60	5,812
1990	222	2,960	222	6,034
1989	452	3,413	452	6,487

^aThis figure is negative because the 50-percent match was assumed to apply to spending for both benefits and administrative costs. States, however, receive an enhanced match for some administrative expenses that were not reflected in our calculations.

⁸We used the medical care component of the personal consumption expenditures from the National Income and Product Accounts published by the Department of Commerce, expressed in terms of 1996 purchasing power. The effect of this adjustment is to inflate spending in past years to reflect the fact that a dollar purchases fewer health care services today compared with earlier years when prices were lower.

NEW YORK'S FUNDING PERCENTAGE WOULD RISE IN 1997 AND 1998 IF POVERTY, HEALTH CARE COSTS, AND CASELOADS WERE REFLECTED IN THE MATCHING FORMULA

Because relative poverty rates have risen substantially in 1994 and 1995 and because health care costs and more expensive elderly and disabled caseloads have continued to rise, New York's matching percentage would also rise if these trends were taken into account. We estimate New York's matching percentage could rise to either 59 or 63 percent in fiscal year 1998, increasing federal reimbursements for the 2 years by either \$4.9 billion (based on BLS wage costs) or \$7.2 billion (based on HCFA hospital wage cost surveys).

Table 4: Estimated Increase in New York's Funding if the Matching Formula Had Been Designed to Equalize State Financing Burdens (Fiscal Years 1997-98)

Dollars in millions

Fiscal year	FMAP based on BLS wage costs		FMAP based on HCFA wage costs	
	Increase	Cumulative increase	Increase	Cumulative increase
1998	\$2,859	\$2,859	\$4,033	\$4,033
1997	2,008	4,867	3,203	7,236

If you have any further questions regarding this letter, or if we can be of further assistance, please call Jerry Fastrup, Assistant Director, at (202) 512-7211 or me at (202) 512-7114. Dick Horte, Greg Dybalski, and Mark Vinkenes also contributed to this letter.

Sincerely yours,



William J. Scanlon
 Director, Health Financing and Systems Issues

Enclosures - 2

DESCRIPTION OF ADJUSTMENTS FOR
THE COST OF HEALTH CARE SERVICES

Because most of the cost of providing health care services is directly or closely related to the cost of personnel, we constructed a cost index based on wages paid to health care workers in a state compared with wages paid to such workers in all states. Specifically, the cost index was calculated on the assumption that approximately 15 percent of health care costs do not systematically vary across states (medical supplies purchased in national markets, for example) and the remaining 85 percent is related to cross-state differences in personnel costs.

There are two main sources of information on the cost of health care workers: information on wages paid available through the unemployment insurance system tabulated by the Bureau of Labor Statistics (BLS) and a survey of wages paid to hospital workers under the Medicare Prospective Payments System (PPS) conducted by the Health Care Financing Administration (HCFA). Both sources of information have certain strengths and weaknesses. Because of these offsetting strengths and weaknesses, we have not taken a position on which is the superior indicator of health care costs.

The BLS data we used represent wages paid to health care workers under the unemployment insurance system. Under this system, employers report both total wages paid and the number of workers to whom those wages were paid. The data include wages paid to workers in a broad array of settings, including offices and clinics of physicians, dentists, and optometrists; nursing and personal care facilities; hospitals; medical and dental laboratories; and home health care providers.

The main advantage of the BLS data is their breadth of coverage across work settings. Its primary disadvantage is that the unemployment system reports only the number of workers rather than the number of hours worked. Consequently, a wage index based on these data reflects differences in the mix of part-time and full-time workers in the state as well as differences purely in the cost of a unit of labor. For example, if both total wages paid to all workers and total hours worked were the same in both state A and state B, the state using more part-time workers would have a lower average wage per worker, even though wages per hour worked were the same. To avoid this bias, it would be better to have data on wages paid per hour worked.

The data collected by HCFA under the Medicare PPS represent wages paid to hospital employees, including nurses, therapists, technicians, and administrative

staff. An advantage of these data is that they include the number of hours worked per employee. Consequently, a wage index can be constructed that avoids cross-state differences in part-time versus full-time workers. The disadvantage of the HCFA data is that they only reflect the wages paid to personnel who work in a hospital setting rather than wages to personnel working in a broad array of health care settings. If there are systematic cross-state differences in wages paid to workers in hospital versus nonhospital settings, the HCFA wage cost index would not reflect these differences.

An additional issue relating to the use of the HCFA wage index is the time lag in the availability of data for use in the matching formula. The HCFA data lag about 2 years behind the BLS wage data. For example, the Medicaid formula for fiscal year 1998 was calculated in late 1996. At that time, the latest available BLS wage data would have been for 1995 wages, but the latest HCFA wage data would have been for 1993 wages.

DESCRIPTION OF THE CASELOAD INDEX

States that serve a higher proportion of elderly and disabled individuals incur a higher cost of providing services to those in need. To compare cross-state differences in costs associated with difference in the proportions of recipients who are more and less expensive to serve, we constructed a caseload cost index. In developing this index, we first calculated the proportion of each state's caseload in each of four eligibility categories: elderly, blind and disabled, children, and adults and other recipients. We then weighted the proportion of each state's caseload by the national average cost per case for each eligibility group. This weighted average cost was then divided by the national average cost per case in all eligibility groups to arrive at an index that measured the extra cost associated with the composition of the state's actual caseload.

Using fiscal year 1995 data, the caseload index was calculated using the following formula:

$$\text{Caseload Cost Index} = \frac{\$9265 * P65^+ \text{ Share} + \$8535 * B\&D \text{ Share} + \$1076 * \text{Child Share} + \$1814 * \text{Other Share}}{\$3405}$$

Where:

\$9,265 = Weight applied to the proportion of elderly recipients in a state (U.S. average spending per elderly recipient).

P65⁺ Share = The proportion of the state's caseload eligible because they are aged 65 and over.

\$8,535 = Weight for the proportion of recipients who are blind or disabled (U.S. average spending per blind or disabled recipient).

B&D Share = The proportion of the state's caseload who are blind or disabled.

\$1,076 = Weight for the proportion of recipients that are children (U.S. average spending per child recipient).

Child Share = The proportion of the state's caseload who are children.

\$1,814 = Weight for the proportion of adults and "other" recipients (U.S. average spending per adult recipient and those in "other" categories of eligibility, mostly those receiving Aid to Families With Dependent Children).

Other Share = The proportion of the state's caseload eligible as adults or in other categories.

\$3,405 = The U.S. average Medicaid spending per recipient.

SAMPLE CALCULATION FOR NEW YORK

For fiscal year 1995, 12.5 percent of New York's recipients were elderly; 16.9 percent, blind and disabled; 44.6 percent, children; and 26.1 percent, adults and those in other eligibility categories. Using these numbers, its caseload index would be as follows:

$$\begin{array}{l} \text{Caseload} \\ \text{Cost} \\ \text{Index} \end{array} = \frac{\$9265 * .125 + \$8535 * .169 + \$1076 * .446 + \$1814 * .261}{\$3405}$$

$$\begin{array}{l} \text{Caseload} \\ \text{Cost} \\ \text{Index} \end{array} = \frac{\$1154 + \$1436 + \$480 + \$474}{\$3405}$$

$$\begin{array}{l} \text{Caseload} \\ \text{Cost} \\ \text{Index} \end{array} = \frac{\$3544}{\$3405}$$

$$\begin{array}{l} \text{Caseload} \\ \text{Cost} \\ \text{Index} \end{array} = 1.04$$

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