May 12, 2003

NOTE TO: Medicare+Choice Organizations and Other Interested Parties
SUBJECT: Announcement of Calendar Year (CY) 2004 Medicare+Choice Payment Rates

In accordance with section 1853(b)(1) of the Social Security Act (the Act), we are notifying you of the annual Medicare+Choice capitation rate for each Medicare+Choice payment area for 2004, and the risk and other factors to be used in adjusting such rates. Attached is a spreadsheet containing the capitation rate tables for CY 2004, which includes the rescaling factors that will be used with the risk-adjusted portion of payment in 2004. The rates are also posted on the Centers for Medicare & Medicaid Services (CMS) web site at http://www.cms.hhs.gov/healthplans/rates/default.asp. As discussed in Enclosure I, the final estimate of the increase in the National Per Capita Medicare+Choice Growth Percentage for aged beneficiaries is 9.52 percent. This percentage applies to the area-specific rates used in calculating the CY 2003 rates (announced on March 1, 2002).

For 2004, 15 percent of the county rates reflect the minimum percent increase. Under section 1853(c)(1) of the Act, Medicare+Choice payments are to be based on the highest of three amounts: a "blended rate," a "floor" amount, and a 2 percent increase over the prior years' rate. As announced in the Advance Notice of Methodological Changes for CY 2004 Medicare+Choice (M+C) Payment Rates, published on March 28, 2003, the minimum percent increase will be adjusted to account for National Coverage Determinations and legislative changes in benefits effective in CY 2002 that met the threshold for "significant cost" set forth in applicable regulations. (Should CMS's policy on "significant cost" change in 2003, the new policy would apply to M+C payments for CY 2004.) The adjusted minimum percent increase for the CY 2004 rates is 2.2 percent.

As discussed in Enclosure I, the final estimate of the increase in the floor payment rate for aged beneficiaries is 8.18 percent. The "floor" amounts for aged beneficiaries are $592.29 for counties in MSAs with a population of 250,000 or more and $535.88 for other areas, (or, if lower, the 2003 floor increased by the National Per Capita Medicare+Choice Growth Percentage for areas outside of the 50 States and the District of Columbia). County demographic tables will be sent under separate cover. Note, however, that almost all counties receiving the floor rate in 2004 will experience lower growth (about 5 percent on average) in their payment rates because in 2003 all but six counties received minimum update increases, which were higher than the 2003 floor amounts.

Enclosure II provides a set of tables that summarizes many of the key Medicare assumptions used in the calculation of the national per capita Medicare+Choice growth percentage. The instructions you need to complete the Adjusted Community Rate Proposals (ACRs) for contract periods beginning January 1, 2004 will be forthcoming. The ACR instructions will include information on changes to the working aged annotation process for CY 2004 for the demographic portion of the blended payment (which will be 70 percent of payments for M+C

plans in CY 2004). Under the new process, the monthly beneficiary-level adjustment will be replaced by an annual, M+C contract-level working aged factor applied to the monthly payment.

Section 1853(b)(4) of the Act (added by Section 514 of the BBRA) requires CMS to release county-specific per capita fee-for-service expenditure information on an annual basis, beginning with March 1, 2001. Fee-for-service data for CY2001 will be forthcoming in the next few weeks.

We received two rounds of comments in response to CMS's requests for comments on the February 2003 national risk adjustment meeting and the Advance Notice of Methodological Changes for CY 2004 Medicare+Choice (M+C) Payment Rates, published on March 28, 2003. In all, 30 sets of comments were submitted. Enclosure III presents our responses to these comments. Enclosure IV contains the risk adjustment factors for CY 2004.

Questions on the capitation rate tables and the National Per Capita Medicare+Choice Growth Percentage can be directed to Sol Mussey at (410) 786-6386. Questions on the submission of ACR proposals can be directed to Phil Doerr at (410) 786-1059. Questions on the risk adjustment methodology can be directed to Anne Hornsby at (410) 786-1181.

/ s /
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/ s /
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Enclosures

Enclosure I

Final Estimate of the Increase in the National Per Capita Growth Percentages for 2004

The first table below shows the National Per Capita Medicare+Choice Growth Percentages (NPCM+CGP) used to determine the area-specific rates for 2004. Since the current payment methodology requires determining payment rates based on the 1997 rates for the area-specific rates, we are also showing the increases in the per capita rates from 1997 forward. These growth percentages reflect adjustments of -0.8 percent in 1998, -0.5 percent in 1999 to 2001, and -0.3 percent in 2002 as required by section 1853(c)(6)(B) of the Act. In addition, the increases for 1997 to 2003 reflect adjustments of 5.58 percent, 8.55 percent, 3.29 percent and 5.93 percent for aged, disabled, ESRD, and combined aged and disabled, respectively, in order to account for corrections to prior estimates, as required under section 1853(c)(6)(C). The combined aged and disabled increase is used in the development of the risk-adjusted ratebook. The second table shows information for the determination of the floor payment rates. Since the BIPA 2000 reestablished the floor payments in 2001, there are adjustments only for 2002 and 2003 for corrections to prior estimates. Finally, the third table shows the monthly actuarial value of the Medicare deductible and coinsurance for 2003 and 2004. These data were furnished by the Office of the Actuary.

Increase in the National Per Capita M+C Growth Percentages for 2004

	Prior Increases	Current Increases			NPCM+CGP for 2004 With Sec.1853(c)(6)(C) adjustment[1]
	1997 to 2003	1997 to 2003	2003 to 2004	1997 to 2004	
Aged	14.59%	20.98%	3.73%	25.50%	9.52%
Disabled	14.72	24.53	3.79	29.25	12.67
ESRD	-9.66	-6.69	2.92	-3.97	6.30
Aged+Disabled	14.29	21.07	3.68	25.53	9.83

[1]Current increases for 1997 to 2004 divided by the prior increases for 1997 to 2003.

Increase in the Floor Payment Rate for 2004

	Prior Increases	Current Increases			NPCM+CGP for 2004 With Sec.1853(c)(6)(C) adjustment[1]
	2001 to 2003	2001 to 2003	2003 to 2004	2001 to 2004	
Aged	4.29%	8.76%	3.73%	12.82%	8.18%
Disabled	4.28	9.33	3.79	13.48	8.82
ESRD	-1.81	5.51	2.92	8.59	10.59
Aged+Disabled	4.22	8.72	3.68	12.72	8.16

[1] Current increases for 2001 to 2004 divided by the prior increases for 2001 to 2003.

Monthly Actuarial Value of Medicare Deductible and Coinsurance for 2003 and 2004

	2003	2004	Change
Part A Benefits	$26.47	$28.83	8.9%
Part B Benefits[2]	75.14	84.51	12.5
Total Medicare	101.61	113.34	11.5

[2]Includes the amounts for outpatient psychiatric charges.

Enclosure II

KEY ASSUMPTIONS AND FINANCIAL INFORMATION

Attached is a table, which compares the published United States Per Capita Costs (USPCC) with current estimates for 1997 to 2003. In addition, this table shows the current projections of the USPCCs through 2006. We are also providing an attached set of tables that summarizes many of the key Medicare assumptions used in the calculation of the USPCCs. The USPCCs are the basis for the National Per Capita Medicare+Choice Growth Percentages. Most of the tables include information for the years 1997 through 2006. Caution should be employed in the use of this information. It is based upon nationwide averages, and local conditions can differ substantially from conditions nationwide.

Comparison of Current Estimates of the USPCC with Published Estimates

PART A:

Calendar Year	Aged			Disabled			Aged and Disabled		
	Current Estimate	Published Estimate	Ratio	Current Estimate	Published Estimate	Ratio	Current Estimate	Published Estimate	Ratio
1997	$288.08	$297.81	1.034	$234.16	$251.92	1.076	$281.40	$292.02	1.038
1998	$258.70	$271.26	1.049	$214.15	$224.86	1.050	$253.01	$265.22	1.048
1999	$260.13	$277.67	1.067	$215.58	$236.27	1.096	$254.28	$272.14	1.070
2000	$264.47	$286.18	1.082	$216.75	$230.48	1.063	$258.07	$278.61	1.080
2001[1]	$285.96	$288.62	1.009	$237.38	$235.50	0.992	$279.33	$281.25	1.007
2001[2]	$285.96	$298.43	1.044	$237.38	$242.00	1.019	$279.33	$290.59	1.040
2002	$297.42	$294.46	0.990	$243.81	$242.06	0.993	$289.71	$287.10	0.991
2003	$303.43	$290.50	0.957	$252.62	$234.89	0.930	$296.10	$282.50	0.954
2004	$316.73	$316.73	1.000	$262.32	$262.32	1.000	$308.64	$308.64	1.000
2005	$330.30	—	—	$272.49	—	—	$321.46	—	—
2006	$344.41	—	—	$286.13	—	—	$335.49	—	—

PART B:

Calendar Year	Aged			Disabled			Aged and Disabled		
	Current Estimate	Published Estimate	Ratio	Current Estimate	Published Estimate	Ratio	Current Estimate	Published Estimate	Ratio
1997	$156.64	$169.14	1.080	$145.29	$149.06	1.026	$155.30	$166.82	1.074
1998	$183.59	$200.88	1.094	$169.65	$177.27	1.045	$181.95	$198.06	1.089
1999	$186.68	$206.31	1.105	$172.19	$175.90	1.022	$184.92	$202.57	1.095
2000	$200.27	$218.78	1.092	$182.14	$195.91	1.076	$198.02	$216.03	1.091
2001[1]	$219.99	$217.57	0.989	$204.56	$191.99	0.939	$218.03	$214.32	0.983
2001[2]	$219.99	$223.83	1.017	$204.56	$198.69	0.971	$218.03	$220.63	1.012
2002	$237.65	$244.17	1.027	$220.50	$218.23	0.990	$235.38	$240.76	1.023
2003	$248.40	$232.24	0.935	$231.94	$211.58	0.912	$246.15	$229.47	0.932
2004	$255.69	$255.69	1.000	$240.62	$240.62	1.000	$253.58	$253.58	1.000
2005	$268.86	—	—	$254.59	—	—	$266.81	—	—
2006	$284.19	—	—	$270.42	—	—	$282.19	—	—

PART A & PART B:

Calendar Year	Aged			Disabled			Aged and Disabled		
	Current Estimate	Published Estimate	Ratio	Current Estimate	Published Estimate	Ratio	Current Estimate	Published Estimate	Ratio
1997	$444.72	$466.95	1.050	$379.45	$400.98	1.057	$436.70	$458.84	1.051
1998	$442.29	$472.14	1.067	$383.80	$402.13	1.048	$434.96	$463.29	1.065
1999	$446.81	$483.98	1.083	$387.77	$412.17	1.063	$439.20	$474.71	1.081
2000	$464.74	$504.96	1.087	$398.89	$426.39	1.069	$456.09	$494.64	1.085
2001[1]	$505.95	$506.19	1.000	$441.94	$427.49	0.967	$497.36	$495.57	0.996
2001[2]	$505.95	$522.26	1.032	$441.94	$440.69	0.997	$497.36	$511.22	1.028
2002	$535.07	$538.63	1.007	$464.31	$460.29	0.991	$525.09	$527.86	1.005
2003	$551.83	$522.74	0.947	$484.56	$446.47	0.921	$542.25	$511.97	0.944
2004	$572.42	$572.42	1.000	$502.94	$502.94	1.000	$562.22	$562.22	1.000
2005	$599.16	—	—	$527.08	—	—	$588.27	—	—
2006	$628.60	—	—	$556.55	—	—	$617.68	—	—

[1]Applies to M+C ratebook for January to February, 2001

[2]Applies to M+C ratebook for March to December, 2001

Comparison of Current Estimates of the USPCC with Published Estimates-continued

PART A:

Calendar Year	ESRD Current Estimate	ESRD Published Estimate	Ratio
1997	$1,507.83	$1,485.79	0.985
1998	$1,362.75	$1,051.64	0.772
1999	$1,313.57	$1,217.99	0.927
2000	$1,330.80	$1,443.13	1.084
2001[1]	$1,453.35	$1,541.76	1.061
2001[2]	$1,453.35	$1,597.34	1.099
2002	$1,559.75	$1,435.62	0.920
2003	$1,617.78	$1,596.58	0.987
2004	$1,688.78	$1,688.78	1.000
2005	$1,768.23	—	—
2006	$1,862.21	—	—

PART B:

Calendar Year	ESRD Current Estimate	ESRD Published Estimate	Ratio
1997	$2,202.53	$2,375.41	1.078
1998	$1,729.00	$2,182.05	1.262
1999	$1,665.07	$2,353.11	1.413
2000	$1,641.12	$2,436.13	1.484
2001[1]	$1,908.55	$1,875.57	0.983
2001[2]	$1,908.55	$1,921.53	1.007
2002	$1,884.06	$2,014.79	1.069
2003	$1,939.82	$1,847.53	0.952
2004	$1,972.65	$1,972.65	1.000
2005	$2,037.69	—	—
2006	$2,107.73	—	—

PART A & PART B:

Calendar Year	ESRD Current Estimate	ESRD Published Estimate	Ratio
1997	$3,710.36	$3,861.20	1.041
1998	$3,091.75	$3,233.69	1.046
1999	$2,978.64	$3,571.10	1.199
2000	$2,971.92	$3,879.26	1.305
2001[1]	$3,361.90	$3,417.33	1.016
2001[2]	$3,361.90	$3,518.87	1.047
2002	$3,443.81	$3,450.41	1.002
2003	$3,557.60	$3,444.11	0.968
2004	$3,661.43	$3,661.43	1.000
2005	$3,805.92	—	—
2006	$3,969.94	—	—

[1]Applies to M+C ratebook for January to February, 2001

[2]Applies to M+C ratebook for March to December, 2001

Summary of Key Projections Under Present Law[1]

Part A

Year	Calendar Year CPI Percent Increase	Fiscal Year PPS Update Factor	FY Part A Total Reimbursement (Incurred)
1997	2.3%	2.0%	8.5%
1998	1.3	0.0	-2.1
1999	2.2	0.5	-2.9
2000	3.5	1.1	-0.5
2001	2.7	3.4	7.9
2002	1.4	2.8	8.9
2003	2.3	3.0	3.0
2004	2.4	3.5	5.7
2005	2.7	3.7	5.2
2006	2.9	3.9	5.6

Part B[2]

Calendar Year	Physician Fee Schedule		Part B	
	Fees	Residual	Hospital	Total
1997	0.6%	3.6%	7.4%	4.9%
1998	2.9	1.3	-1.4	4.6
1999	2.7	1.2	9.5	5.7
2000	5.8	3.5	-2.9	10.2
2001	5.7	3.5	13.9	10.4
2002	-4.0	7.9	3.9	7.3
2003	1.4	3.0	4.2	4.6
2004	-4.2	4.4	4.5	2.6
2005	-1.7	3.7	8.4	4.1
2006	-1.9	3.6	8.0	4.9

[1]Percent change over prior year.
[2]Percent change in charges per Aged Part B enrollee.

Medicare Enrollment Projections Under Present Law (In Millions)

Non-ESRD

Calendar Year	Part A		Part B	
	Aged	Disabled	Aged	Disabled
1997	33.124	4.686	32.038	4.142
1998	33.288	4.875	32.170	4.306
1999	33.386	5.049	32.266	4.460
2000	33.696	5.215	32.422	4.603
2001	33.874	5.346	32.577	4.750
2002	34.472	5.786	32.734	5.000
2003	34.754	5.858	32.980	5.202
2004	35.080	6.125	33.228	5.418
2005	35.472	6.401	33.538	5.642
2006	35.941	6.499	33.913	5.759

ESRD Part A

Calendar Year	Part A			
	Aged	Disabled	299I[1]	Total
1997	0.114	0.084	0.091	0.289
1998	0.123	0.091	0.095	0.309
1999	0.132	0.098	0.098	0.328
2000	0.141	0.103	0.103	0.347
2001	0.148	0.108	0.107	0.363
2002	0.156	0.117	0.112	0.385
2003	0.164	0.122	0.115	0.401
2004	0.170	0.129	0.119	0.418
2005	0.175	0.135	0.121	0.431
2006	0.180	0.139	0.123	0.442

ESRD Part B

Calendar Year	Part B			
	Aged	Disabled	299I	Total
1997	0.112	0.073	0.080	0.265
1998	0.120	0.078	0.081	0.279
1999	0.129	0.084	0.082	0.295
2000	0.137	0.088	0.085	0.310
2001	0.144	0.092	0.087	0.323
2002	0.152	0.099	0.089	0.341
2003	0.159	0.103	0.091	0.353
2004	0.165	0.109	0.093	0.366
2005	0.170	0.114	0.094	0.378
2006	0.174	0.117	0.096	0.387

[1] Individuals who qualify for Medicare based on ESRD only.

Part A Projections Under Present Law [1]

Calendar Year	Inpatient Hospital		SNF		Home Health		Managed Care		Hospice: Total Reimbursement (in Millions)	
	Aged	Disabled	Aged	Disabled	Aged	Disabled	Aged	Disabled	Aged	Disabled
1997	2,229.85	2,378.82	370.82	129.79	471.31	322.26	464.46	206.54	1,955	103
1998	2,191.28	2,333.74	363.93	126.96	294.51	209.93	513.86	238.46	2,074	109
1999	2,225.89	2,355.12	296.70	99.79	174.22	125.85	578.26	271.96	2,446	129
2000	2,234.43	2,366.62	315.43	105.13	100.57	70.44	593.00	272.68	2,831	149
2001	2,426.20	2,601.63	384.90	130.84	120.88	77.99	570.79	267.87	3,541	186
2002	2,609.80	2,717.01	393.27	129.62	134.86	84.40	512.84	247.39	4,397	231
2003	2,709.70	2,839.50	373.93	123.80	132.02	83.02	513.70	255.37	4,797	252
2004	2,826.26	2,945.10	390.28	128.36	140.43	87.71	529.98	267.88	5,108	269
2005	2,961.35	3,065.26	401.86	131.14	149.94	92.95	504.05	258.60	5,420	285
2006	3,118.60	3,235.12	415.13	135.80	160.67	99.88	489.85	256.07	5,728	301

[1]Average reimbursement per enrollee on an incurred basis, except where noted.

Part B Projections Under Present Law[1]

Calendar Year	Physician Fee Schedule		Part B Hospital		Durable Medical Equipment	
	Aged	Disabled Non-ESRD	Aged	Disabled Non-ESRD	Aged	Disabled Non-ESRD
1997	$873.18	$792.22	$249.77	$278.96	$109.70	$163.71
1998	886.86	815.42	225.75	250.54	103.73	164.88
1999	910.29	837.85	235.16	261.91	107.37	166.25
2000	1,003.27	919.36	224.83	273.48	118.61	184.40
2001	1,129.11	1,037.73	301.60	365.19	137.54	217.99
2002	1,197.96	1,077.70	335.77	418.42	156.26	246.47
2003	1,257.47	1,126.68	357.47	443.00	165.69	265.13
2004	1,256.21	1,124.02	381.82	471.63	176.62	282.24
2005	1,284.69	1,145.77	428.99	526.87	187.44	298.55
2006	1,320.74	1,171.36	494.86	601.71	200.96	318.31

Calendar Year	Carrier Lab		Other Carrier		Intermediary Lab	
	Aged	Disabled Non-ESRD	Aged	Disabled Non-ESRD	Aged	Disabled Non-ESRD
1997	$63.32	$58.88	$151.23	$137.88	$39.25	$48.94
1998	55.52	54.34	161.31	150.25	39.52	43.38
1999	54.86	55.44	176.05	165.27	43.88	54.91
2000	58.78	57.57	201.39	184.53	46.23	59.32
2001	64.96	63.70	241.37	225.83	49.48	66.88
2002	71.30	69.59	281.37	267.43	58.05	76.22
2003	75.03	73.01	312.57	296.07	61.09	84.53
2004	79.37	77.08	344.92	325.20	64.60	94.45
2005	83.63	80.96	383.81	359.50	68.12	103.65
2006	88.88	85.56	428.90	398.46	72.38	109.53

Calendar Year	Other Intermediary		Home Health		Managed Care	
	Aged	Disabled Non-ESRD	Aged	Disabled Non-ESRD	Aged	Disabled Non-ESRD
1997	$131.24	$147.71	$7.42	$0.00	$312.20	$158.47
1998	118.90	139.41	4.64	0.00	458.13	224.65
1999	96.80	130.29	52.06	40.22	508.95	241.74
2000	120.94	121.79	130.09	98.78	534.14	247.09
2001	149.69	129.90	129.52	89.55	501.37	225.86
2002	170.24	146.08	146.33	99.65	497.50	213.99
2003	169.47	145.32	143.34	95.44	506.88	221.79
2004	161.34	144.04	152.75	101.23	523.17	233.81
2005	170.79	154.23	163.40	107.69	501.17	228.18
2006	181.70	166.00	175.44	115.13	485.97	222.88

[1]Average reimbursement per enrollee on an incurred basis.

Claims Processing Costs as a Fraction of Benefits

Calendar Year	Part A	Part B
1997	0.001933	0.015712
1998	0.002066	0.015203
1999	0.002129	0.015741
2000	0.002195	0.014790
2001	0.001862	0.013223
2002	0.001496	0.011708
2003	0.001496	0.011708
2004	0.001496	0.011708
2005	0.001496	0.011708
2006	0.001496	0.011708

Approximate Calculation of the USPCC and the National Medicare+Choice Growth Percentage for Aged Beneficiaries

The following procedure will approximate the actual calculation of the USPCCs from the underlying assumptions for the contract year for both Part A and Part B.

Part A:
The Part A USPCC for aged beneficiaries can be approximated by using the assumptions in the tables titled "Part A Projections Under Present Law" and "Claims Processing Costs as a Fraction of Benefits." Information in the "Part A Projections" table is presented on a calendar year per capita basis. First, add the per capita amounts for the aged over all types of providers (excluding hospice). Next, multiply this amount by 1 plus the loading factor for administrative expenses from the "Claims Processing Costs" table. Then, divide by 12 to put this amount on a monthly basis. The last step is to multiply by .97637 to get the USPCC for the aged non-ESRD. This final factor is the relationship between the total and non-ESRD per capita reimbursements in 2004. This factor does not necessarily hold in any other year.

Part B:
The Part B USPCC can be approximated by using the assumptions in the tables titled "Part B Projections Under Present Law" and "Claims Processing Costs as a Fraction of Benefits." Information in the "Part B Projections" table is presented on a calendar year per capita basis. First, add the per capita amounts for the aged over all types of providers. Next, multiply by 1 plus the loading factor for administrative expenses and divide by 12 to put this amount on a monthly basis. Then multiply by .96561 to get the USPCC for the aged non-ESRD.
The National Per Capita Medicare+Choice Growth Percentage:
The national per capita Medicare+Choice Growth Percentage for 2004 (before adjustment for prior years' over/under estimates) is calculated by adding the USPCCs for Part A and Part B for 2004, dividing by the sum of the current estimates of the USPCCs for Part A and Part B for 2003.

Enclosure III. CMS's Responses to Public Comments

Summary

Beginning in February 2003, CMS has received two rounds of comments in response to CMS's requests for comments on the February 3, 2003 national risk adjustment meeting and the Advance Notice of Methodological Changes for CY 2004 Medicare+Choice (M+C) Payment Rates, published on March 28, 2003. These comments address the CMS-Hierarchical Condition Category (HCC) model, the supplemental frailty adjuster, an End Stage Renal Disease (ESRD) model, and other general implementation issues. In all, 30 sets of comments were submitted.

A majority of the policy comments centered on elements of the new models that affect payment such as:

- Incorporation of an institutional adjuster into the CMS-HCC risk adjustment model;
- Use of a supplemental frailty adjuster; and
- Development of an end stage renal disease (ESRD) model.

Other comments addressed operational issues, e.g., concerns about a "data lag" and about the quality of demographic data used for payment purposes. Finally, some parties representing specialty plans posed highly technical plan-specific questions, to which CMS staff will respond directly as appropriate.

Commenters expressed general support for work done to develop a more accurate payment methodology for plans. Broad support was also expressed for CMS's work on developing a frailty adjuster. In response to CMS staff concerns that some of the comments revealed a lack of understanding about certain aspects of risk/frailty adjustment, CMS has conducted educational outreach to specialty plans. We have also offered to provide additional education to M+C organizations to ensure a general level of understanding regarding changes to the current payment methodology for 2004.

Enclosure III is organized as follows. Section A pertains to the ESRD model, Section B addresses comments on the institutional adjuster and Section C on the frailty adjuster. Section D addresses operational concerns, including the changes to address concerns about a data lag, and Section E addresses other concerns.

A. End Stage Renal Disease Model

Comment - Delay for ESRD model. *Several commenters expressed concern about implementing an ESRD model in 2004 without having more financial predictability in the model, especially when there are other payment uncertainties in 2004. They preferred a 2005 implementation date. We also received a number of other comments about the ESRD model.*

Response. CMS has decided to delay the implementation of the ESRD model for all plans, except the ESRD demonstration plans, until 2005. Such a delay would allow CMS to make the appropriate changes to its payment system operations and would allow M+C organizations additional time to gain experience with the new risk/frailty adjusters before having to integrate additional payment changes for their ESRD enrollees. For 2004, CMS will continue the current method of applying the age-sex adjusters to 100 percent of payments for M+C ESRD enrollees.

In light of the delayed implementation date, we are not responding to other comments on the proposed new ESRD model at this time.

B. Institutional Adjuster

Comment - Necessity of an institutional adjuster. *A few commenters suggested that risk adjusted payments should only be based on diagnosis and functional status of a beneficiary, and that residence does not need to be included in the CMS-HCC model.*

Response. The institutional adjuster was incorporated as a part of the new risk adjustment model in order to improve payment accuracy. As part of the analysis to improve payments for high cost individuals, place of residence (community versus long-term institutionalized) was found to be an appropriate predictor for high cost enrollees. This research revealed that costs to Medicare for the long-term institutionalized are less than the costs for similarly-ill beneficiaries residing in the community. The models are sensitive to disease patterns and if calibrated on the general population predict mainly on the basis of the higher cost patterns of community beneficiaries. The frail institutionalized tend to have many diseases but do not always receive the aggressive treatment provided to the frail community population. A risk model that detects all the diseases without accounting for the systematically different treatment patterns overpredicts payments for the institutionalized and underpredicts for the community. Previously, in the purely demographically-based payment system, M+C payment rates for the institutionalized enrollees did not distinguish the costs for the long-term and short-term institutionalized. However, CMS research indicates a need to make such a distinction, and therefore, uses an institutional adjuster, in order to pay more accurately for both populations. (Under the CMS-HCC model, the term "community" includes the short-term institutionalized.)

Comment - Different payment transition blend. *Based on its clinical, statistical and operational concerns, one commenter representing demonstration specialty plans suggested that the model for plans with a high proportion of institutionalized enrollees be implemented at a 90/10 percent payment transition blend versus the 70/30 percent transition payment blend applying to M+C organizations in 2004.*

Response. The draft financial impact estimates for 2004 are, on average, positive for a set of plans with a high proportion of long-term institutionalized enrollees. Therefore, CMS staff believes that it is appropriate to implement the CMS-HCC model for plans with a high proportion of institutionalized persons at the 70/30 percent blend.

Comment - Payment differences for community and institutionalized populations. *A few commenters were concerned about the accuracy of coefficients (payments associated with each diagnosis) in the model for institutionalized beneficiaries.*

Response. We understand that the coefficients in the model for long-term institutionalized beneficiaries look different than those in the community model. For example, in some cases, these coefficients are zero for institutionalized persons, but are large for community residents. In order to better differentiate spending patterns for community and institutionalized populations, the CMS-HCC model was run separately for each population, resulting in some of the coefficients being considerably different. Some of those differences are related to aggregating diseases in order to improve model stability**.** Also, some coefficients in the institutional model were set at zero dollars because the actual coefficient was negative and statistically significant. In addition, some model coefficients were considerably lower for the long-term institutionalized population reflecting an appropriate lower level of intensity of care in that setting. Some coefficients in the institutional model are, in fact, higher than the parallel coefficients in the community model. Payments for the long-term institutionalized are not systematically reduced by this payment system. Separating the population assures that an appropriate model is used for payment, in particular, one that accounts for the higher mortality rate of the population.

Comment – Cost-shifting to Medicaid. *One commenter expressed concern that the effect of the new risk adjustment model with the institutional adjuster is that costs will be shifted to State Medicaid programs.*

Response. To date, CMS staff is not aware of any evidence of cost shifting to Medicaid. Medicare has a set of benefits for which it pays, many of which are delivered in institutional settings. It is true, however, that Medicare does not cover the cost of long-term institutionalized care. That cost is covered by the State or other payers.

C. Frailty Adjuster

Comment - Potential impact of frailty on PACE. *Several commenters expressed concerns about the negative financial impact of initial risk/frailty adjustment on PACE organizations.*

Response. While the commenters imply that all PACE organizations will be adversely affected, CMS's research shows that, on average, PACE organizations will not be severely impacted. In fact, the current draft financial impact estimates for PACE organizations for 2004, with budget neutrality, is almost negligible. The estimated impacts range from positive to negative highlighting the fact that some plans are positively impacted by risk/frailty adjustment while others are negatively impacted. CMS intends to mitigate the impact of risk/frailty adjustment on PACE organizations by:

- Using a 90/10 percent transition payment blend in 2004, whereby full implementation will not be complete until 2008, rather than 2007 in the case of M+C plans;
- Applying an organization's average frailty score to the new enrollee factors; and
- Evaluating on an annual basis the need for any further adjustments to PACE payment rates.

Comment - Potential delay of frailty adjuster. *Commenters suggested that the frailty adjuster be delayed a year in order that PACE organizations and certain demonstration plans have more time to understand the new methodology and assess the impact on their organizations.*

Response. We understand that changes to payment methodologies create a degree of uncertainty for plans. However, we believe that the current risk/frailty adjustment implementation schedule is reasonable for PACE, as it will only affect 10 percent of PACE organization payments. Also, we will continue to provide substantial education for the National PACE Association (NPA), individual PACE organizations, and certain demonstrations so that they will have ample opportunity to understand changes to their payment systems well ahead of their implementation. Such educational efforts will include risk/frailty adjustment trainings in June 2003 for PACE/demonstration staff, regular conference calls with NPA/demonstration representatives to answer technical questions, CMS staff participation in PACE forums and CMS open door forums. Further, we have worked with PACE organizations on the content and administration of the PACE health survey.

In addition, as of March 2003, CMS will have provided PACE organizations and social health maintenance organizations with two rounds of draft financial impact estimates and will provide additional estimated impacts in May 2003. We believe that such information will help aid plans in their administrative planning. In sum, we have been and will continue to assist PACE organizations and affected demonstrations in their efforts to be prepared for receiving risk adjusted payments in January 2004.

Comment - Potential delay of risk/frailty adjustment for specialty plans only. *A few additional commenters representing certain demonstrations suggested that risk/frailty adjustment be delayed for a year. As with the initial risk adjustment model, the Principal Inpatient Diagnostic Cost Group (PIP-DCG) model, they also suggested that the implementation schedule contain a three-year payment blend of 90/10 percent. However, another commenter supported the risk/frailty adjustment phase-in at 70/30 percent, as for M+C organizations.*

Response. We understand the need for a gradual transition of risk/frailty adjustment for specialty plans/demonstrations. However, we believe that the current implementation schedule provides sufficient transition time, as full implementation of the new risk/frailty adjusters will not occur until 2008 for most specialty plans.

The PIP-DCG model, which uses only diagnoses from inpatient hospital stays, originally had a more rapid phase-in schedule. There were concerns that the phase-in should be slower pending development of a more accurate methodology that uses diagnoses from both inpatient and ambulatory settings. The slower phase-in of the PIP-DCG model gave CMS the opportunity to

develop a more accurate risk adjustment model using data from multiple settings and to address industry concerns about administrative data burden before the impact of risk adjustment exceeded 10 percent of M+C payments.

Comment - Application of frailty factor to M+C organizations. *One commenter suggested that CMS should apply the frailty adjuster to all M+C organizations so that organizations serving special populations would be appropriately paid.*

Response. While we are working to improve the frailty adjuster to implement for all plans, we are implementing the CMS-HCC model with a frailty adjuster for PACE organizations and certain demonstrations as an initial step that will allow CMS to refine our payment approach for frail populations. Our current model would need further validation and refinement before implementation could be considered across the M+C program. Also, in order to apply the frailty adjuster to all M+C organizations, we need to develop an appropriate ratebook adjustment. As the information needed for frailty adjustments is not collected routinely through administrative data, proper adjustment of the ratebook is not easily done and will require additional research.

Comment - Implementation of a frailty adjuster for the long-term institutionalized. *A few commenters suggested that CMS apply the frailty factor to the long-term institutionalized population.*

Response. CMS's work on developing a frailty adjuster examined the necessity of implementing a frailty adjuster for the long-term institutionalized population. Our research indicated that costs for long-term institutionalized Medicare beneficiaries are sufficiently explained by the diagnoses included in the CMS-HCC model, and therefore, a supplemental frailty adjuster is not necessary for the long-term institutionalized population.

Comment - Non-response bias in collecting functional impairment information. *Two commenters recommended that CMS provide an opportunity for organizations affected by frailty adjustment to obtain the activities of daily living (ADL) information from their survey nonrespondents. Furthermore, one of those commenters proposed allowing organizations to obtain this information throughout the year, updating the payment at reconciliation. In contrast, another commenter suggested that any necessary adjustment for non-response bias be incorporated into payments during 2004, rather than at reconciliation.*

Response. We understand that there is a concern that survey nonrespondents could possibly have a different level of functional impairment than survey respondents. However, the above-recommended approach could affect payment accuracy because it would involve collecting ADL information using two different approaches: CMS's mail survey and an organization's interview conducted by its staff. Our preliminary research suggests that information that is collected using different approaches (i.e. mixing modes of administration) yields different responses, and therefore, should not be used for payment purposes.

Based on these concerns, we intend to conduct our own non-response bias study, which we believe will adequately address possible payment inequities due to survey non-response. In conducting an analysis of the PACE survey pilot, no evidence of significant non-response bias existed. However, because the pilot included only a subset of the PACE population, CMS intends to study non-response bias for all PACE organizations in 2003. If significant non-response bias is detected, CMS can adjust the payment in reconciliation. Regarding the timing of payment adjustment in 2004 related to non-response bias findings, the schedule for collecting the information and determining the organization-level frailty score is very tight. For the purpose of 2004 payments, the frailty scores must be established before the non-response bias study is conducted. Given that non-response bias was not detected during the pilot, we do not expect any adjustments for nonresponse bias to be large.

Also, CMS is considering a suggestion by a commenter to study the responses of non-English speaking enrollees. The results of these analyses may indicate whether there are other potential sources of bias due to language differences. However, in response to a commenter's suggestion that CMS analyze the difference in risk scores between respondents and non-respondents, we do not believe it is necessary to study such differences because enrollee diagnoses are independently reported, thereby allowing an accurate risk adjusted portion of the payment to be calculated.

Comment - Frailty factor applied to new PACE enrollees. *One commenter requested confirmation that the frailty adjuster will be applied to new Medicare beneficiaries who enroll in PACE organizations. Furthermore, the same commenter recommends that PACE organizations be allowed to provide CMS with a diagnostic profile of their new enrollees that becomes the basis for a risk score for payment purposes.*

Response. CMS confirms that the frailty adjuster will be applied to community-based new Medicare enrollees who are 55 or older. However, the same commenter's proposal to use diagnostic profiles for new enrollees would not be consistent with CMS's current prospective risk adjustment approach.

Comment - Prospective PACE organizations. *One commenter expressed concern that prospective PACE providers will be unable to accurately predict their revenues and thus will perceive substantial risk of participation.*

Response. We understand that there is some uncertainty with new business ventures. However, in 2004, risk/frailty adjustment will only comprise 10 percent of the Medicare payment to PACE organizations. The remaining 90 percent will be based on the current payment methodology which applies a 2.39 multiplier to the payment rate, regardless of the health status or functional limitations of the PACE enrollee. We will continue to investigate this issue as we move forward with risk/frailty implementation for PACE organizations and certain demonstrations.

Comment - Comparison of MCBS population to PACE population for frailty adjuster estimation. *One commenter expressed concern that the Medicare Current Beneficiary Survey*

(MCBS) population that was used to estimate the frailty model is not comparable to the PACE population in terms of severity of functional limitation and cost. The commenter requested information about the comparability between the MCBS population having one or more ADLs and the PACE population that is nursing home certifiable (NHC).

Response. The weighted MCBS population is representative of the Medicare population (though not at the county level). The frailty adjuster is thus flexible enough to apply to subpopulations across the entire functional impairment spectrum. We do not believe that the population having one or more deficits in activities of daily living (ADLs) is necessarily comparable to the PACE population. Since roughly 75 percent of PACE enrollees (as measured by the Health Outcomes Survey) have three or more ADLs, the MCBS subgroup with three or more ADLs is probably more comparable to PACE. Because the MCBS does not include a marker for NHC, an analysis of the NHC subgroup within the MCBS sample is not possible. Another limiting factor is that PACE plans have discretion as to which NHC beneficiaries may enroll.

Comment - Prior research studies of frail elderly costs. *One commenter indicated that CMS's most recent financial impact estimates for PACE show a slight decrease in payments (compared to the current 2.39 approach) at full implementation of risk/frailty adjustment. The commenter suggested that this is inconsistent with prior analyses of Medicare fee-for-service (FFS) costs for populations of comparable frailty to PACE enrollees. Among these analyses were: a study conducted by Abt Associates, Inc. showing that Medicare savings were roughly 40 percent based on the costs of a FFS comparison group; and a 1997 study that estimated Medicare cost ratios ranging from 2.47 to 2.71 for PACE-comparable beneficiaries.*

Response. First, the impact estimates produced by CMS were based on diagnosis data that was submitted by less than half of the PACE organizations, which may not be fully representative of the PACE program. Second, these previous studies are not necessarily comparable to CMS's impact estimates. In the Abt study, the cost projections applied only to first-year enrollees. The cost trajectory suggested that cost projections would decline over time for this subgroup. Because the ultimate extent of the decline was not addressed by the study, the results are not generalizable to the PACE population. In addition, the comparison group may not have been directly comparable to the PACE population. PACE enrolls a population that is at-risk of institutionalization, but very few people in the comparison group were nursing home residents during the post-enrollment study period. Regarding the 1997 study, the PACE program has changed somewhat since that study was conducted. Therefore, we do not believe that the results of the 1997 study are directly comparable to recent impact estimates. In all, we believe that the current frailty approach developed by CMS is, to date, the best estimate of Medicare costs for the frail elderly enrolled in PACE.

Comment - Concurrent Medicaid status adjustment. *The commenter indicated that a large proportion of new PACE enrollees acquires Medicaid eligibility at the same time that they enroll in a PACE organization. However, the upward payment adjustment for Medicaid is triggered by the CMS-HCC model based on Medicaid eligibility in any one month of the prior year.*

Therefore, the commenter recommended that CMS adjust payments for the Medicaid status of PACE enrollees on a concurrent basis.

Response. The risk adjustment model includes a payment adjustment for Medicaid status in the prior year. The frailty model builds upon (but does not change) the risk adjustment model. In response to this concern, CMS investigated the feasibility of incorporating current-year Medicaid status into the frailty model. That is, Medicaid status would be counted twice: prospectively under risk adjustment, and concurrently under frailty adjustment. However, the payment factors associated with current-year Medicaid status by ADL group lacked face validity, i.e., were not monotonic. This may have been due to the high correlation between prior-year and current-year Medicaid status. CMS will continue to examine this issue as we work on refinements to the frailty model.

Comment - Negative frailty factor for enrollees with zero ADLs. O*ne commenter requested an explanation of CMS's rationale for a negative frailty payment factor for individuals with zero ADLs.*

Response. The CMS-HCC model was estimated based on the average Medicare population. Thus, risk adjustment accounts for the Medicare costs of beneficiaries who have an average level of functional impairment. Risk adjustment underpredicts the expenditures for beneficiaries with higher than average levels of impairment (i.e., 1 to 2 ADLs, 3 to 4 ADLs, etc.). Similarly, risk adjustment overpredicts the expenditures for beneficiaries with lower than average levels of impairment (i.e., 0 ADLs). Thus the frailty factors are positive for one or more ADLs, and negative for zero ADLs.

Comment - Accounting for higher end-of- life costs. *One commenter recommended that the payments to PACE be appropriately adjusted to reflect the provision of end-of-life care.*

Response. CMS has taken the costs of end-of-life care into account. When CMS estimated the payment factors, we included the costs of people who died during the payment year. The mortality rate among the frail MCBS population was comparable to the average mortality rate across all PACE organizations. Hence, we believe that, on average, the payment factors properly reflect the higher costs of end-of-life care.

D. Operational Concerns

Comment - MDS data accuracy. *Several commenters expressed concerns that the accuracy and submission timing of the minimum data set (MDS) from nursing homes for reporting the institutional status of Medicare beneficiaries is not sufficient for making payment. One commenter requested access to the MDS data.*

Response. Submission of MDS data has been required since 1990 under the Omnibus Budget Reconciliation Act of 1987. All Medicare and Medicaid certified nursing homes are required to conduct assessments for the purpose of coordinated care planning, quality measurement, and payment. Nursing homes are regularly surveyed for compliance with MDS requirements by both state and federal regulatory agencies.

Reporting from nursing homes to CMS is also timely. The CMS repository receives ninety-eight percent of assessments within 30 days of completion; by 60 days this figures increases to almost one hundred percent. Currently, the MDS has long-term stay quality indicators (at least one quarterly assessment during a six month interval) on approximately 1,292,000 beneficiaries and has assessments for an additional 160,000 short-term residents. MDS quality indicator data exists for all but 140 out of 16,473 certified nursing homes. The non-submitters tend to be newly certified nursing homes.

Hence, CMS is confident that anecdotal concerns regarding the time lag in submitting MDS data and the non-submission of assessments for health maintenance organizations' (M+C) enrollees have been addressed. In addition, as a part of CMS's outreach to plans with a high proportion of long-term institutionalized enrollees, we provided them the information in the preceding paragraph. Long-term specialty plan representatives indicated that MDS data accuracy and submission timing were no longer issues for them. As such, with these concerns allayed, CMS staff does not believe it will be necessary to provide access to the MDS for accurate risk adjusted payments to be made. An appeal process after final reconciliation will be developed so that if representatives of a plan believe a particular enrollee status to be incorrect and it impacts payment, it may be appealed.

Comment - Prospective nature of risk adjustment. *One commenter expressed confusion over whether the diagnoses used for payment in the institutional risk adjustment model are from the data collection year or concurrent with the 90-day MDS assessment.*

Response. The community and institutional risk adjustment models are prospective payment models and the diagnostic data for both models will come from the data collection year. The long-term institutional indicator is concurrent because this approach more accurately reflects treatment patterns upon which costs are based. The concurrent institutional indicator can be implemented correctly because this population can be readily identified through an administrative data source and without additional burden to the industry.

Comment - Long-term institutionalized payment categories. *A few commenters believed that basing payment on the proportion of enrollees with long-term institutionalized status in the prior year would be a reasonable approach. Others commenters did not appear to understand the nature of the proposed approach.*

Response. In the March 28 Advance Notice, CMS outlined its approach for initial implementation of the institutional adjuster. We proposed to provide interim payments at the community rate for all enrollees in M+C organizations and demonstrations with less than 5

percent long-term institutionalized, and at the institutional rate for all enrollees in plans with more than 75 percent long term institutionalized. For enrollees in plans with between 5 percent and 75 percent long term institutionalized, we proposed to provide interim payments at a rate based on the enrollee's status as of a point in time in the prior year. CMS would then make adjustments based on the correct monthly institutional status of each person for each month in the final CY 2004 reconciliation. CMS has simplified this initial implementation approach to separate enrollees into only two payment categories. This means that M+C organizations and demonstrations with less than 5 percent long-term institutionalized will be paid initially at the community rate whereas M+C organizations and demonstrations with greater than 5 percent long-term institutionalized will be paid at a rate based on the enrollee's status as of a point in time in the prior year. Again the final reconciliation will be based on each individual's long-term institutionalized status for each month in the year.

A primary goal of the above implementation approach would be to eliminate the need for monthly monitoring by organizations and allow CMS to examine MDS reporting for individuals, if warranted, at the end of the payment year and make the necessary adjustments. We intend to reduce the burden of monthly monitoring by providing payments that are likely to reflect the correct residential status of the individual enrollees. Ultimately, this approach will allow CMS to calculate 12 months of payment based on reconciled data on institutional status for all enrollees.

Comment - Data lag elimination. *Several commenters expressed support for eliminating the six-month data lag that exists under the current risk adjustment model. However, two commenters expressed concerns about the "operational consequences" of eliminating the lag if it meant that a mid-year payment adjustment would be necessary. The commenters expressed concern about the potential disruption in provider relationships that could result from a mid-year payment adjustment. Two commenters suggested that a different implementation approach be used whereby the risk factors be updated and provided to plans no later than July 2004, but the associated payment adjustment would occur in the following year.*

Response. In response to the comments received on this issue as a result of the February 3rd public meeting, CMS conducted outreach with 19 M+C organizations. They were asked about their preferences for, and difficulties with, the proposed CMS approach compared to the alternative approach offered by commenters. Only three M+C organizations expressed concerns about the proposed CMS approach and its effect on provider contracting; these plans were concerned that any change in the risk factor would require potential changes to provider payments mid-year. The remaining 16 organizations expressed support for the CMS approach; that is, most organizations desired to receive payments based on the non-lagged risk factor as quickly as possible, rather than waiting for payments until the following calendar year. Therefore, beginning in 2004, CMS will eliminate the six-month data lag between the data collection period and the payment year.

In implementing this approach, preliminary risk factors based on calendar year data are expected to be available for payments in July 2004. M+C organizations will be paid on this factor for the remainder of the year. In addition, CMS expects to begin making mid-year payment adjustments in August 2004 retroactive to January 2004. These payment adjustments will represent the

difference between the payments based on the non-lagged factor and those based on the lagged factor. All organizations must use these non-lagged factors when preparing their adjusted community rate proposals (ACRPs) for 2005.

However, because a few organizations were concerned about the CMS proposed implementation plan, we are allowing organizations to opt-out of this approach. For organizations that opt out, we will use the risk factor based on lagged data (i.e., diagnoses from July 2002 to July 2003) for making payments throughout CY 2004. In approximately March 2005, CMS will make payment adjustments for the 2004 payments to reflect the difference between payments based on the non-lagged factor and those based on the lagged factor. No interest will be paid on these deferred payment adjustments, since the payments would be deferred at the request of the organizations. Organizations that desire to opt out of the implementation approach must notify CMS in writing by March 31, 2004. (This notification should be addressed to Angela Porter via email at aporter@cms.hhs.gov.)

We are still examining several issues related to the opt-out approach. The first issue is whether organizations that appear to have a lower average non-lagged risk factor than a lagged average risk factor (and therefore, would owe CMS money) would be permitted to opt-out of the implementation approach. This scenario is not likely to occur if organizations submit diagnostic data on a regular basis. Therefore, CMS will increase its monitoring of data submissions from all organizations to prevent this situation from occurring. The current data requirement is that plans submit some diagnostic data to CMS at least quarterly. This requirement will be strictly upheld; M+C organizations will be required to submit at least 25 percent of their data on a quarterly basis. The second issue, which applies only to plans that opt-out of the implementation approach, is our ability to provide the non-lagged factors on an individual basis. We are examining privacy and operational issues related to this and will provide updates to organizations that opt-out of the implementation approach.

E. Other Concerns

CMS-HCC Model Characteristics. *Two commenters encouraged CMS to provide as much detail about the new risk adjustment model, in its final version, as soon as possible.*

Response. We are aware that plans are working to understand the new risk adjustment model in their efforts to prepare for the 2004 implementation of the new model. At the same time, we are working to provide plans additional information as soon as possible. Nonetheless, we are committed to ensuring the accuracy of the information so that it will be in final form when provided in May 2003.

Comment – Increase in 2004 floor rates. *One commenter requested further explanation of the 8.2 percent estimated increase in floor rates.*

Response. The preliminary estimate of the national M+C growth trend for 2004 floor rates for aged beneficiaries is 8.2 percent. This figure refers to the change in floor rate amounts from 2003 to 2004. The 2003 high and low floor rates of $547.54 and $495.39 were increased by 8.2 percent to $592.29 and $535.88, respectively. However, in 2003 every county (except six) received minimum two percent update rates, which means their 2003 floor rates were lower than their 2003 payment rate. Thus, counties assigned floor rates for 2004 do not receive an 8.2 percent increase from their 2003 rates (except for the six counties that were floor counties in 2003). Instead, the average rate increase for 2004 floor counties over their 2003 minimum update rates is approximately 5 percent.

Comment - adjustment of predicted national mean expenditures due to population demographic changes and coding intensity. *Two commenters asked CMS to clarify whether the ratebook adjustment for population demographic changes and coding practices (i.e., later data tends to reflect more precise coding) will be a one-time adjustment or an ongoing adjustment. Both commenters supported a one-time adjustment, but questioned the need for an ongoing adjustment and requested further explanation and discussion if this is CMS's intention.*

Response.
Rationale for the adjustment. The CMS system for determining capitated payments has two linked components: a set of geographically specific (currently county) base rates; and a system of risk factors for adjusting the rates appropriately for individuals. A base level of expenditures is set in the ratebook and a relative adjustment factor is set by the risk adjustment system. The base rates in the original demographic system, the PIP-DCG system, and in the new CMS-HCC system are the payments appropriate for the national average fee-for-service beneficiary – the reference person whose risk factor has the value 1.0. This is true whether the base rates are determined directly from fee-for-service data or are modified by policy processes such as those in statute. These rates carry the information about overall payment levels, reflecting the utilization in the population and policy changes. As the population, payment rates, and utilization patterns in fee-for-service change, the rates in the ratebook reflect the change. Each year the average fee-for-service risk factor should be 1.0 to properly adjust the base rates. Under the original demographic adjustment system, the population average changed slowly over time and the demographic factors were changed slightly each year. However, the CMS-HCC model uses diagnostic information and is sensitive to coding practices as well as demographic changes. The CMS-HCC model requires adjustment to keep the anticipated average risk factor at 1.0 over time.

As with other components of a prospective payment system, such as the United States Per Capita Cost (USPCC), it is necessary to project the average using information from the recent past. A correction factor can then be derived and applied to keep the anticipated average risk factor at 1.0 for each year. New data can then be used to refine projections for the next year. A more detailed description of the process follows.

Technical background. A risk adjustment model calibrated on a particular year's data, in this case expenditures for year 2000, will produce coefficients and dollar predictions appropriate to the population and data for that year. When the model with fixed coefficients is used to predict

expenditures for other years, predictions for prior years are lower and predictions for succeeding years are higher than the prediction for the calibration year. This is seen through the process of calibrating the 1997 ratebook, in which three years of fee-for-service data were used. Using the model calibrated on predicted spending in 2000 to produce predicted values for 1996 through 1998, predicted mean expenditures went smoothly from $4703 to $4834 to $4947. In 2000 they were $5129. These numbers are the predicted averages for a population including all fee-for-service beneficiaries, those in the risk adjustable population, and those treated as new enrollees because they lacked a full year of eligibility. Converted to relative factors, with 2000 having a value of 1.0, the values are 0.917 for 1996, 0.942 for 1997, and 0.965 for 1998. This trend indicates that the predicted average will exceed 1.0 in years subsequent to 2000. This pattern has been seen in analyses using models calibrated on earlier data and then applied to more recent years.

This trend does not reflect changes in prices or changes in utilization because the model predicts expenditures given spending patterns observed in 2000, the calibration year. Instead, the predictions reflect changes in population demographics, disease patterns, and coding patterns. In particular, coding quantity and specificity have increased since 1991, the first year that Medicare required diagnostic coding on physician claims. In calibrating the ratebook, it was desirable to compute an average of each county's relative risk factors for three years. It was necessary to normalize the national average factor to 1.0 for each year and then average each county's three relative factors.

Just as was done for the ratebook, CMS is applying normalization to the mean national risk factor in the payment years. It is important that the adjuster just carries relative expenditure information and the ratebook captures the changes in base expenditure. The two components have different functions. To allow the relative adjustment system to drift from a mean of 1.0 would result in systematic over- or underpayment.

Projection of the predicted national mean adjustment. The changes over time of the predicted national mean varied only slightly from year to year and the average change could have been used. Because there was a slight decline in the rate of growth of the average over time, that decline was built into the projection model. A best-fit polynomial model (third order) was applied, and the smooth, increasing curve of diminishing slope was projected to 2004. The increase in the predicted mean is 8.7 percent in the four years from 1996 to 2000, and 5 percent from 2000 to 2004. A constant rescaling factor of (1/1.05) will be used in the formula to compute the 2004 risk adjusted payments.

Relationship of the coding intensity adjustment to the budget neutral approach to risk adjustment. Without the budget neutral approach to risk adjustment for 2004, it is estimated that risk adjustment would reduce aggregate payments to the M+C program as a whole, though not to each and every organization. Making risk adjustment budget neutral means that the amount by which risk adjustment would (in the absence of our budget neutral approach) reduce aggregate payments from payments under the original demographic system would be added back to organization payments as a constant percentage of risk payments. This includes any changes in payment related to average factor rescaling. Both the coding intensity adjustment and the budget

neutrality adjustment can be found in the M+C ratebook, along with an explanation of how each is applied when calculating rates and payments.

Neither aggregate payments to the M+C program nor payments to any M+C organization are reduced as a result of the adjustment for coding intensity and shifts in population demographics. Therefore, while this is an annual adjustment, it does not negatively impact payments to M+C organizations as long as risk adjustment is implemented in a budget neutral manner.

Further detail on the CMS-HCC model.

Additional tools and information on the CMS-HCC model will be available by the end of May on the CMS website at http://www.cms.hhs.gov/healthplans/rates/default.asp: basic SAS software for the CMS-HCC grouper; and a detailed text file of the mapping of ICD-9-CM codes to HCCs. These files are made available for information purposes. No technical support is available from CMS for organizations that decide to utilize the SAS version of the CMS-HCC grouper.

Enclosure IV. CMS-HCC Model Risk Factors

We explained the CMS-HCC model in detail in our March 28, 2003 Advance Notice of Methodological Changes for the CY 2004 M+C Payment Rates, which can be found on the CMS website at http://www.cms.hhs.gov/healthplans/rates/default.asp.

The CMS-HCC model is prospective in the sense that it uses diagnosis information from a base year to predict costs and adjust payments for the next year. In applying the CMS-HCC model to risk adjust payments for the M+C program, the model is used to determine relative risk factors. In order to use the model as an adjuster to a base rate, costs must be converted into relative cost factors - i.e., risk adjustment factors. To create risk adjustment factors, the dollar coefficients (i.e., the predicted expenditure estimates for the diagnostic and demographic characteristics in the model) are divided by the national average (mean) predicted expenditure for fee-for-service beneficiaries. The predicted national average is $5,129 for 2000, the calibration year of the model. These relative risk factors are used to adjust county ratebook amounts for the relative health status of the individual enrollee.

Exhibit 1 below shows the risk factors applicable to categories of beneficiaries under the CMS-HCC risk adjustment system. (This table differs from Exhibit 1 in our March 28, 2003 Advance Notice only in showing the values as relative risk factors, rather than as dollar coefficients as we did in the Advance Notice.) **Exhibit 3** contains the risk adjustment factors for new enrollees.

Whereas the PIP-DCG model places a person in only a single cost group based on his/her principal inpatient diagnosis with the greatest cost implications, the CMS-HCC model is structured so that each disease group contributes its incremental predicted cost to payment amounts. Conceptually, disease groups are not mutually exclusive because unrelated disease processes each contribute to the predicted costs of care. The CMS-HCC model uses diagnoses from physician visits and hospital inpatient and outpatient stays to assign each beneficiary to none, one, or more than one disease group. For example, an M+C enrollee with heart disease, cerebrovascular disease, and cancer would be assigned to three separate disease groups, and CMS's payment for this enrollee will reflect increments for each of these conditions. We refer to this as an additive model because, in general, each additional diagnosis results in an increased payment.

In some cases, however, an additional diagnosis does not trigger an additional payment increment because a more severe diagnosis supercedes a less serious one. That is, the CMS-HCC model also can characterize a beneficiary's illness level <u>within</u> a disease process. In some disease groups the diagnoses are clinically related and ranked by (cost) severity in a hierarchy, since the more severe manifestations of a disease process principally define the impact of that disease group on cost. In short, costs are additive across hierarchies and disease groups, but not within hierarchies. **Exhibit 2** below lists the disease groups that have hierarchies.

CMS also incorporated some interactive terms in the model to capture the combined effects on cost of certain diseases. (See Exhibit 1.) In most instances, simply adding the incremental costs

of multiple diseases captures the combined effect that individual diseases have on costs. However, research has shown that some combinations of diseases are more or less costly to treat than the sum of the costs of individual diseases. Thus, interactive terms representing combined effects are in the model. The diseases involved are diabetes, congestive heart failure, chronic obstructive pulmonary disease, cerebrovascular disease, renal failure, and coronary artery disease. There are also terms in the model that distinguish the costs of the disabled (under 65) from the aged for specific diseases. These are disorders that typically have more expensive treatment patterns in the younger population, e.g., drug and alcohol psychosis and dependence, opportunistic infections, and cystic fibrosis.

Finally, CMS has developed a Medicare payment approach that adjusts the payment to an organization according to the frailty of an organization's enrollees. The frailty adjustment approach is to be applied in conjunction with the CMS-HCC risk adjustment model for payments to PACE and certain demonstrations. See **Exhibit 4** for the final frailty factors. Frailty adjustment will apply only to community-based and short-term institutionalized enrollees (i.e., the frailty adjustment for long-term institutionalized enrollees is zero).

EXHIBIT 1. Community And Institutional Annual Risk Factors for the CMS-HCC Model with Constraints And Demographic/Disease Interactions

Variable	Disease Group	Community Factors	Institutional Factors
Age/Sex Factors			
Female0-34		0.117	1.064
Female35-44		0.197	1.064
Female45-54		0.214	1.064
Female55-59		0.265	1.064
Female60-64		0.375	1.064
Female65-69		0.307	1.164
Female70-74		0.384	1.179
Female75-79		0.483	0.992
Female80-84		0.572	0.938
Female85-89		0.665	0.880
Female90-94		0.795	0.789
Female95+		0.805	0.581
Male0-34		0.068	1.104
Male35-44		0.120	1.104
Male45-54		0.190	1.104
Male55-59		0.270	1.104
Male60-64		0.342	1.104
Male65-69		0.346	1.450
Male70-74		0.453	1.238
Male75-79		0.577	1.211
Male80-84		0.657	1.209
Male85-89		0.790	1.241
Male90-94		0.901	1.049
Male95+		1.035	0.836
Medicaid & Originally Disabled Interactions with Age & Sex			
Medicaid Female, Disabled		0.221	0.000
Medicaid Female, Aged		0.183	0.000

Variable	Disease Group	Community Factors	Institutional Factors
Medicaid Male, Disabled		0.115	0.000
Medicaid Male, Aged		0.184	0.000
Originally-Disabled Female		0.236	0.000
Originally-Disabled Male		0.148	0.000
Disease Group Factors [1]			
HCC1	HIV/AIDS	0.685	1.344
HCC2	Septicemia/Shock	0.890	0.946
HCC5	Opportunistic Infections	0.652	1.344
HCC7	Metastatic Cancer and Acute Leukemia	1.464	0.540
HCC 8	Lung, Upper Digestive Tract, and Other Severe Cancers	1.464	0.540
HCC9	Lymphatic, Head and Neck, Brain, and Other Major Cancers	0.690	0.452
HCC10	Breast, Prostate, Colorectal and Other Cancers and Tumors	0.233	0.259
HCC15	Diabetes with Renal or Peripheral Circulatory Manifestation	0.764	0.612
HCC16	Diabetes with Neurologic or Other Specified Manifestation	0.552	0.612
HCC17	Diabetes with Acute Complications	0.391	0.612
HCC18	Diabetes with Ophthalmologic or Unspecified Manifestation	0.343	0.612
HCC19	Diabetes without Complication	0.200	0.255
HCC21	Protein-Calorie Malnutrition	0.922	0.427
HCC25	End-Stage Liver Disease	0.900	0.268
HCC26	Cirrhosis of Liver	0.516	0.268
HCC27	Chronic Hepatitis	0.359	0.268
HCC31	Intestinal Obstruction/Perforation	0.408	0.268
HCC32	Pancreatic Disease	0.445	0.268
HCC33	Inflammatory Bowel Disease	0.307	0.268
HCC37	Bone/Joint/Muscle Infections/Necrosis	0.496	0.495

Variable	Disease Group	Community Factors	Institutional Factors
HCC38	Rheumatoid Arthritis and Inflammatory Connective Disease Tissue	0.322	0.285
HCC44	Severe Hematological Disorders	1.011	0.448
HCC45	Disorders of Immunity	0.830	0.448
HCC51	Drug/Alcohol Psychosis	0.353	0.221
HCC52	Drug/Alcohol Dependence	0.265	0.221
HCC54	Schizophrenia	0.543	0.221
HCC55	Major Depressive, Bipolar, and Paranoid Disorders	0.431	0.221
HCC67	Quadriplegia/Other Extensive Paralysis	1.181	0.098
HCC 68	Paraplegia	1.181	0.098
HCC69	Spinal Cord Disorders/Injuries	0.492	0.098
HCC70	Muscular Dystrophy	0.386	0.098
HCC71	Polyneuropathy	0.268	0.098
HCC72	Multiple Sclerosis	0.517	0.098
HCC73	Parkinson's and Huntington's Diseases	0.475	0.098
HCC74	Seizure Disorders and Convulsions	0.269	0.098
HCC75	Coma, Brain Compression/Anoxic Damage	0.568	0.098
HCC77	Respirator Dependence/Tracheostomy Status	2.102	1.415
HCC78	Respiratory Arrest	1.429	1.415
HCC79	Cardio-Respiratory Failure and Shock	0.692	0.289
HCC80	Congestive Heart Failure	0.417	0.176
HCC81	Acute Myocardial Infarction	0.348	0.288
HCC82	Unstable Angina and Other Acute Ischemic Heart Disease	0.348	0.288
HCC83	Angina Pectoris/Old Myocardial Infarction	0.235	0.288
HCC92	Specified Heart Arrhythmias	0.266	0.187
HCC95	Cerebral Hemorrhage	0.392	0.151
HCC96	Ischemic or Unspecified Stroke	0.306	0.151

Variable	Disease Group	Community Factors	Institutional Factors
HCC100	Hemiplegia/Hemiparesis	0.437	0.098
HCC101	Cerebral Palsy and Other Paralytic Syndromes	0.164	0.098
HCC104	Vascular Disease with Complications	0.677	0.509
HCC105	Vascular Disease	0.357	0.114
HCC107	Cystic Fibrosis	0.376	0.230
HCC 108	Chronic Obstructive Pulmonary Disease	0.376	0.230
HCC111	Aspiration and Specified Bacterial Pneumonias	0.693	0.463
HCC112	Pneumococcal Pneumonia, Empyema, Lung Abscess	0.202	0.463
HCC119	Proliferative Diabetic Retinopathy and Vitreous Hemorrhage	0.349	0.995
HCC130	Dialysis Status	3.076	3.112
HCC131	Renal Failure	0.576	0.420
HCC132	Nephritis	0.273	0.420
HCC148	Decubitus Ulcer of Skin	1.030	0.317
HCC149	Chronic Ulcer of Skin, Except Decubitus	0.484	0.262
HCC150	Extensive Third-Degree Burns	0.962	0.248
HCC154	Severe Head Injury	0.568	0.248
HCC155	Major Head Injury	0.242	0.248
HCC157	Vertebral Fractures without Spinal Cord Injury	0.490	0.098
HCC158	Hip Fracture/Dislocation	0.392	0.000[2]
HCC161	Traumatic Amputation	0.843	0.248
HCC164	Major Complications of Medical Care and Trauma	0.262	0.263
HCC174	Major Organ Transplant Status	0.722	0.882
HCC176	Artificial Openings for Feeding or Elimination	0.790	0.882
HCC 177	Amputation Status, Lower Limb/Amputation Complications	0.843	0.248

Variable	Disease Group	Community Factors	Institutional Factors
Disabled/Disease Interactions			
D-HCC5	Disabled*Opportunistic Infections	0.789	0.000
D-HCC44	Disabled*Severe Hematological Disorders	0.893	0.000
D-HCC51	Disabled*Drug/Alcohol Psychosis	0.509	0.000
D-HCC52	Disabled*Drug/Alcohol Dependence	0.414	0.000
D-HCC107	Disabled*Cystic Fibrosis	1.861	0.000
Disease Interactions			
INT1	DM*CHF[3]	0.253	0.207
INT2	DM*CVD	0.125	0.000
INT3	CHF*COPD	0.241	0.372
INT4	COPD*CVD*CAD	0.079	0.000
INT5	RF*CHF[3]	0.234	0.000
INT6	RF*CHF*DM[3]	0.864	0.000

NOTES
[1] Beneficiaries with HCC128 Kidney Transplant Status were excluded from the sample because they will be included in the ESRD model sample.
[2] Factor constrained to zero because it was negative.
[3] Beneficiaries with the three-way interaction RF*CHF*DM are excluded from the two-way interactions DM*CHF and RF*CHF. Thus, the three-way interaction term RF*CHF*DM is not additive to the two-way interaction terms DM*CHF and RF*CHF. Rather, it is hierarchical to, and excludes these interaction terms. A beneficiary with all three conditions is not "credited" with the two-way interactions. All other interaction terms are additive.
DM= diabetes mellitus (HCCs 15-19)
CHF= congestive heart failure (HCC 80)
COPD= chronic obstructive pulmonary disease (HCC 108)
CVD= cerebrovascular disease (HCCs 95-96, 100-101)
CAD= coronary artery disease (HCCs 81-83)
RF= renal failure (HCC 131)

Source: RTI Analysis of 1999/2000 Medicare 5% Sample

EXHIBIT 2. List Of Disease Groups (HCCs) with Hierarchies

DRAFT DISEASE HIERARCHIES		
If the Disease Group is Listed in This Column…		**…Then Drop the Associated Disease Group(s) Listed in This Column**
Disease Group (HCC)	**Disease Group Label**	
5	Opportunistic Infections	112
7	Metastatic Cancer and Acute Leukemia	8,9,10
8	Lung, Upper Digestive Tract, and Other Severe Cancers	9,10
9	Lymphatic, Head and Neck, Brain and Other Major Cancers	10
15	Diabetes with Renal Manifestations or Peripheral Circulatory Manifestation	16,17,18,19
16	Diabetes with Neurologic or Other Specified Manifestation	17,18,19
17	Diabetes with Acute Complications	18,19
18	Diabetes with Ophthalmologic or Unspecified Manifestations	19
25	End-Stage Liver Disease	26,27
26	Cirrhosis of Liver	27
51	Drug/Alcohol Psychosis	52
54	Schizophrenia	55
67	Quadriplegia/Other Extensive Paralysis	68,69,100,101,157
68	Paraplegia	69,100,101,157
69	Spinal Cord Disorders/Injuries	157
77	Respirator Dependence/ Tracheostomy Status	78,79
78	Respiratory Arrest	79
81	Acute Myocardial Infarction	82,83
82	Unstable Angina and Other Acute Ischemic Heart Disease	83
95	Cerebral Hemorrhage	96
100	Hemiplegia/Hemiparesis	101
104	Vascular Disease with Complications	105,149
107	Cystic Fibrosis	108
111	Aspiration and Specified Bacterial Pneumonias	112
130	Dialysis Status	131,132
131	Renal Failure	132
148	Decubitus Ulcer of Skin	149
154	Severe Head Injury	75,155
161	Traumatic Amputation	177

How Payments are Made with a Disease Hierarchy
EXAMPLE: If a beneficiary triggers Disease Groups 148 (Decubitus Ulcer of the Skin) and 149 (Chronic Ulcer of Skin, Except Decubitus), then DG 149 will be dropped. In other words, payment will always be associated with the DG in column 1, if a DG in column 3 also occurs during the same collection period. Therefore, the M+C organization's payment will be based on DG 148 rather than DG 149.

Exhibit 3. CMS-HCC Demographic Model for New Enrollees[1]

Age/Sex Factors	Non-Medicaid & Not Originally Disabled	Medicaid & Not Originally Disabled	Non-Medicaid & Originally Disabled	Medicaid & Originally Disabled
Female0_34	0.397	0.816	0	0
Female35_44	0.601	1.019	0	0
Female45_54	0.725	1.144	0	0
Female55_59	0.846	1.265	0	0
Female60_64	1.009	1.428	0	0
Female65	0.486	1.004	1.100	1.619
Female66	0.534	1.037	1.168	1.671
Female67	0.595	1.098	1.228	1.732
Female68	0.612	1.115	1.246	1.749
Female69	0.653	1.157	1.287	1.790
Female70_74	0.773	1.262	1.390	1.858
Female75_79	0.979	1.332	1.491	1.875
Female80_84	1.148	1.502	1.660	1.998
Female85_89	1.289	1.643	1.801	2.150
Female90_94	1.376	1.730	1.888	2.283
Female95_GT	1.217	1.571	1.888	2.283
Male0_34	0.296	0.692	0	0
Male35_44	0.501	0.896	0	0
Male45_54	0.648	1.043	0	0
Male55_59	0.821	1.216	0	0
Male60_64	0.939	1.334	0	0
Male65	0.528	1.049	1.042	1.563
Male66	0.591	1.074	1.100	1.583
Male67	0.651	1.134	1.160	1.643
Male68	0.704	1.187	1.213	1.696
Male69	0.739	1.222	1.248	1.731
Male70_74	0.919	1.317	1.374	1.772
Male75_79	1.168	1.577	1.588	1.996
Male80_84	1.352	1.760	1.771	2.180
Male85_89	1.565	1.973	1.984	2.392
Male90_94	1.664	2.072	2.083	2.492
Male95_GT	1.655	2.064	2.083	2.492

[1] For payment purposes, a new enrollee is a beneficiary who did not have 12 months of Part B eligibility in the calendar year prior to the payment year.

Source: RTI Analysis of 1999/2000 Medicare 5% sample

EXHIBIT 4. Final Frailty Factors for the Community Population Aged 55-And-Over[1]

Difficulty in Activities of Daily Living (ADLs)	Additive Frailty Factor
0 ADLs	-0.143
1-2	+0.172
3-4	+0.340
5-6	+1.094

[1] Frailty factors are applied to PACE plans and certain demonstrations.