Better Payment Policies for Quality of Care:

Fostering the Business Case for Quality Phase I – Medicaid Demonstrations

Final Report – Site Summaries
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UNC
THE CECIL G. SHEPS CENTER
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Project Background

John Hopkins Priority Partners Managed Care Organization's quality enhancing initiative (QEI) was implemented through the *Business Case for Quality* (BCQ), a multi-site demonstration project designed by the Center for Health Care Strategies (CHCS) to test the existence of a business case for quality for Medicaid managed care organizations. Ten Medicaid managed care entities implemented pilot interventions that addressed a range of clinical conditions and intervention strategies. The interventions, launched in April 2004, were evaluated by a research team at the University of North Carolina at Chapel Hill. BCQ was funded by the Robert Wood Johnson Foundation (RWJF) and The Commonwealth Fund (CMWF).

Maryland

John Hopkins Priority Partners Managed Care Organization

HealthChoice is Maryland's statewide mandatory Medicaid Managed Care program. Begun in 1997, HealthChoice currently has 7 participating Managed Care Organizations (MCOs) and provides medical and substance abuse treatment services to most Medicaid recipients. In Maryland, the mental health services for Medicaid recipients are carved out from HealthChoice and managed by MAPS-MD, a for-profit administrative services organization. Priority Partners is a Maryland Medicaid MCO and is owned 50% by Johns Hopkins Healthcare, LLC, (JHHC) and the Maryland Community Health System, LLLP.

Reimbursement Model

Priority Partners MCO (PP) receives a monthly capitation payment from the State of Maryland. JHHC, through a contract with PP, provides administrative services including claims payment, customer service, network administration and care management. The amount of capitation paid to PP is risk-adjusted using the ACG Case-Mix System. As nearly all of its medical expenses are fee for service or for facilities, PP will benefit financially in the short term from decreased utilization. However, PP believes that limiting needed services will be more costly in the long term, and this is not their goal.

Quality Enhancing Intervention

The goal of the JHHC QEI is to improve care, and thereby quality of life, for Medicaid recipients who have substance abuse problems and whose medical morbidity predicted a high use of medical services. By developing informational and organizational structures that provide integrated medical and substance abuse services, the objective of the QEI is to better manage patient care and reduce preventable acute care episodes. Components of this effort were implemented beginning in July 2004, and included a training program for medical and substance abuse care managers, development of an integrated care team, creation of a unitary point of outreach, and development of a dedicated information system which permitted easy sharing of patient data across programs.

Target Population

Using claims data, JHHC identified 3,900 adult enrollees who had a diagnosis of substance abuse or a substance abuse related medical diagnosis,

and who, based on their medical claims history were likely to be high utilizers of medical services in the future. Using ACG Case-Mix software, the 400 members with the highest predictive morbidity scores (ACG score greater than or equal to 0.39) became the target group of the integrated care management QEI. These 400 members reside in metropolitan Baltimore and two contiguous counties. Seventy members are nicotine dependent only, and lack a diagnosis of other substance abuse.

A control group of 202 adults was selected from 12 Maryland counties, excluding the three counties where the cases reside and counties on the Eastern Shore that were participating in a similar QEI. These adults exhibited a history of substance abuse disorder, and were identified using the same ACG risk score as was used for the cases.

Baseline Claims Findings

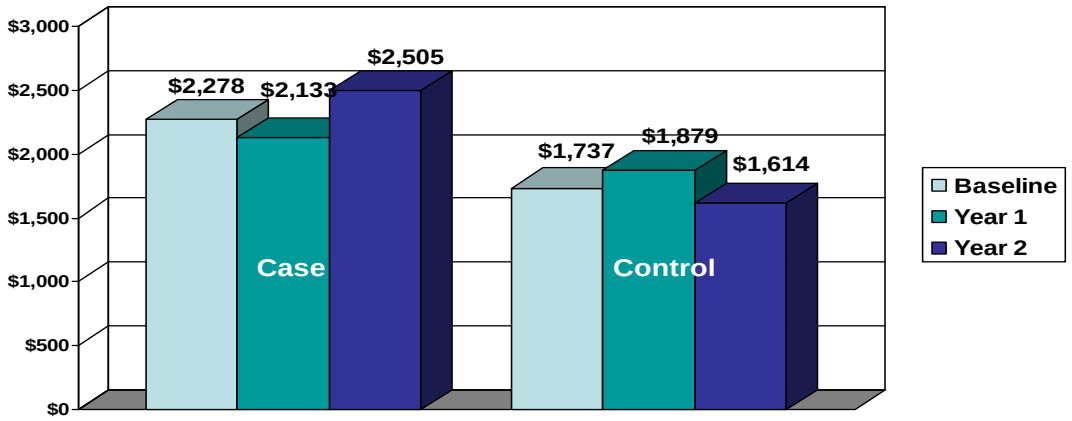
The 400 adults identified by PP ranged in age from 20 to 64 years, with a mean age of 46. We examined both the cases and controls for possible outliers, looking for individuals with unusually high claim costs. Since the diagnoses of individuals with high claim costs were consistent with the focus of the QEI, we consequently we did not remove any cases. (**Appendix 4)**

The total PMPM payments for this population were $2,278 during the baseline year, reflecting a population with high utilization. A large proportion of this payment, 58% or $1,327 was for inpatient care, reflecting an inpatient utilization rate of 1,775.7 admissions and 7,247.1 days per 1000 persons per year. Payments for hospital outpatient care were $297, followed by $260 for prescription drugs. The rate of prescriptions averaged 62 per person, or the equivalent of five maintenance drugs per person. Emergency room use was 5.4 visits per person, with payments of $179 PMPM. The physician office visit rate was 7.5 visits per person, for a payment of $94 PMPM. The number of home visits per person was 2.1 for a payment of $75 PMPM. (**Table 4.1, Figure 4.1, Appendix 4**)

Table 4.1: Maryland Utilization Measures

Utilization	Baseline Case N=400	Year 1 Case N=376	Year 2 Case N=306	Baseline Control N=202	Year 1 Control N=194	Year 2 Control N=152
Admissions/1000	1,775.7	1,490.2	1,528.5	1,338.8	1,209.8	936.5
Days/1000	7,247.1	7,817.7	7,093.0	5,117.3	6,494.9	4,014.5
Office visits per person	7.5	7.5	6.6	13.3	11.7	10.9
ER visits per person	5.4	4.7	4.3	4.7	4.1	3.5
Home visits per person	2.1	1.8	1.4	0.6	1.4	1.1
Prescriptions per person	61.6	65.2	68.7	71.5	71.8	74.0

Figure 4.1: Maryland PMPM Payment Totals



The 202 adults identified for the control group were similar in age to the cases, and range in age from 21 to 64, with a mean of 46 years. (**Appendix 4**) However, the controls differ from the cases in a number of substantial ways with respect to baseline costs and utilization. Their total PMPM payments were $1,737 which is 24% less than the total payments for the cases. (**Figure 4.1**) The greatest difference between the cases and controls is in the use of inpatient care. The admission rate for the controls is 25% lower than for the cases (1,338.8 vs. 1,775.7) and the days per 1000 for the controls is 29% lower than the cases (5,117.3 vs 7,247.1). (**Figures 4.4, 4.5**) This difference is mirrored in the PMPM payments for inpatient care, with $1,327 for the cases and $800 for the controls. (**Figure 4.3)** There are also striking differences in outpatient utilization with controls having an office visit rate of 13.3 per person, almost twice the rate of 7.5 visits for cases. While the cases and controls were identified the same way, and should reflect a similar degree of illness severity, the baseline data suggest there maybe differences in utilization practices between the physicians in the metropolitan Baltimore area where the cases reside, as compared to the outlying counties where the controls live and are treated.

Figure 4.3: Maryland PMPM Payments by Category

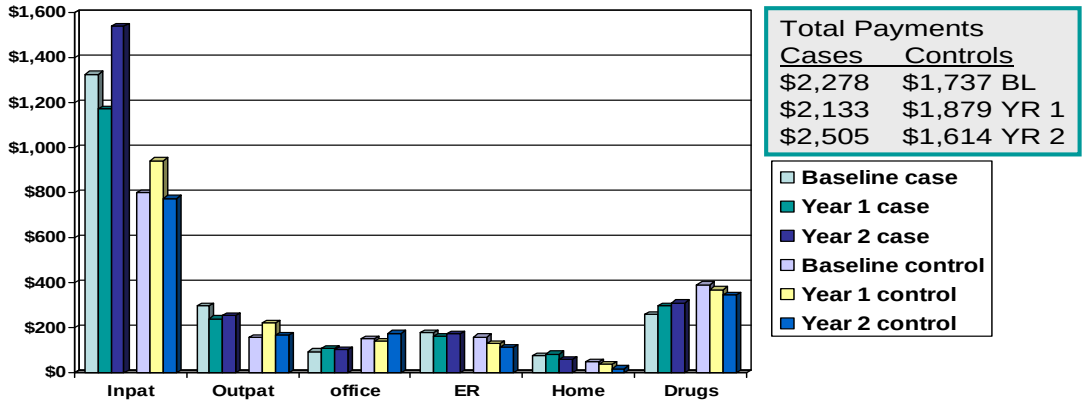


Figure 4.4: Maryland – Admissions/1000 Baseline

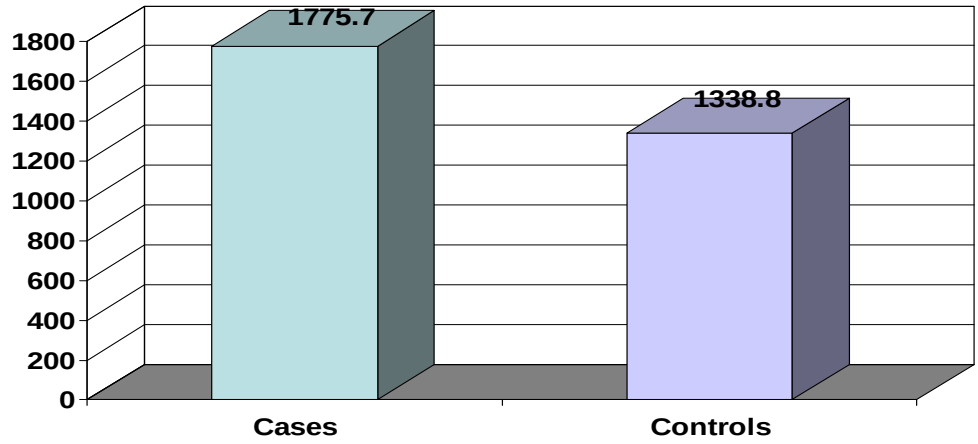
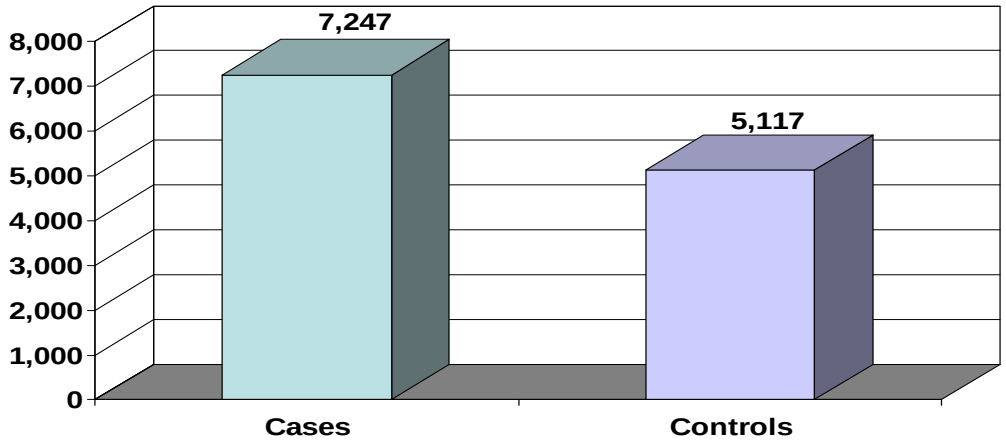


Figure 4.5: Maryland – Days/1000 Baseline



Years One and Two Claims Findings

During the two years of the QEI, Priority Partners did not allow additional individuals to enroll in the QEI, nor did they include new persons in the control group. The QEI lost 24 members through attrition during year one and an additional 70 members in year two. The average member months were 344 and 277 in the respective years, compared to 395 in the baseline year. The control group also lost members, resulting in an average member months of 173 in year one and 138 in year two. (**Appendix 4)**

During year one, the total PMPM payments for the cases *decreased* 6.4% to $2,133. The following year the payments *increased* 17.4% to $2,505, for a total *increase* over the three years of 10.0%. However, except for prescription drugs, all utilization measures declined over the two years. The controls had a different pattern. They showed an increase in total PMPM payments in year one, increasing 8.2% to $1,879, and dropping 14.1% to $1,614 in year two. This resulted in a total decline of 7.1% over the three years. Consequently, over the course of the study, the payments *increased* for the cases, and *declined* for the controls. (**Figure 4.1, Table 4.1**)

Among the cases, the PMPM payments for inpatient care decreased in year one, and increased in year two. This is reflected in the utilization rates. The admission rate changed from 1,775.7 admissions per 1000 persons in baseline, declining to 1,490.2 in year one, and up to 1,528.5 in year two. Correspondingly, the days per 1000 persons changed from 7,247.1 days in baseline to 7,817.7 days in year one, to 7,093.0 days in year two. Utilization measures for other sites of care changed moderately from year to year. For example, the office visit

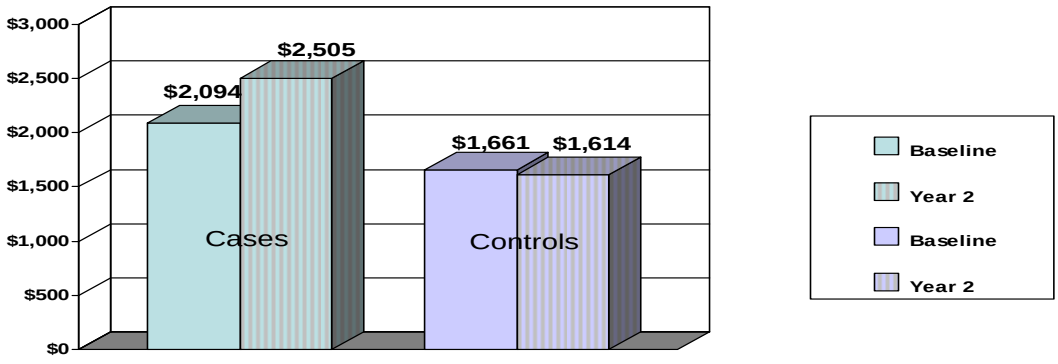
rate was 7.5 visits per person in baseline, was unchanged in year one and 6.6 in year two. The ER visit rate declined modestly, from 5.4 visits in baseline, to 4.7 in year one, and 4.3 in year two. Home visits also declined, from 2.1 visits in baseline, to 1.4 in year two. Prescriptions per person, however, increased over the three years, from 61.6 prescriptions per person in baseline to 68.7 in year two. (**Table 4.1**)

Utilization rates for the controls generally declined over the course of the study. The admission rate dropped 30.0%, from 1,338.6 admissions per 1000 persons to 936.5 admissions. Similarly, the days per 1000 rate declined 21.6%, from 5,117.3 days per 1000 persons to 4,014.5 days per 1000. The office visit rate also dropped, from 13.3 visits per person 10.9 visits. ER visits also showed a steady decline, from 4.7 visits in the baseline to 3.5 in year two. Home visits increased modestly, changing from 0.6 visits per person to 1.1 visits. Finally, prescription drugs showed a very small increase from 71.5 prescriptions per person to 74.0. (**Table 4.1**)

Cohort Analysis

Nearly one-fourth of the cases were lost to attrition over the course of three years. To see what impact this may have had on payments, we performed a secondary analysis. For the cohort of 313 individuals who were in the QEI for all three years, we compared their total PMPM payments for baseline with year two. The results are shown in **Figure 4.2**. Their payments increased 16.4%, from $2,094 to $2,505. Consequently, the payments for the cohort increased greater than the 10% increase in payments for the entire population of the QEI, suggesting that those who left during the three years were less expensive than those who remained.

Figure 4.2: Maryland – Payment Totals, Cohort present all 3 years



Investment and Operating Costs

The investment cost for the Priority Partners QEI was $39,698. The predominant expense was for personnel including oversight and management for planning the project, a nurse case manager, and expenditures for database development and training. Operating expense in years one and two were $139,038 and $105,449 respectively. The predominant expense was for nurse case managers, followed by substance abuse outreach workers and substance abuse clinical specialists. (**Table 4.2**)

Table 4.2: Maryland Operating Costs

Costs	Baseline	Year 1	Year 2
Personnel	$31,640	$113,865	$88,536
Office	$1,075	$7,038	$2,012
Equipment	$0	$0	$0
Other direct	$2,500		$750
Indirect	$4,483	$18,135	$14,151
Total	$39,698	$139,038	$105,449

Return on Investment

Over the three years the investment and operating expense, on a discounted basis, totaled $274,082[1] While the QEI resulted in claim savings in the first year ($597,734), there were excess PMPM costs in the second year ($754,216). Cumulatively, there was an excess claims cost of $130,596 on a discounted basis. The resulting net present value is -$404,678 for a negative return on investment. (**Table 4.3**) The site was not able to provide us with data on cost adjustments during years one and two. The ROI may have been different if such an adjustment had been made.

[1] Note: Due to the significant differences in the cases and controls at baseline, the ROI was calculated using only data from the cases.

Table 4.3: Maryland Return on Investment

	Baseline	Year 1	Year 2	Total
Investment in QEI				
Investment/Operational Costs	$39,698	$139,038	$105,449	
Discounted Costs	$39,698	$134,988	$99,396	$274,082
Savings/Increases from QEI				
Utilization Savings		$597,734	($754,216)	
Discounted Savings		$580,325	($710,921)	($130,596)
ROI Metrics				
Benefit-Cost Ratio	($39, 698)	$445,337	($810,317)	-0.48
Net Present Value				($404,678) NEGATIVE

APPENDIX 4

MD – Johns Hopkins										
QEI- Substance Abuse			QEI Start Date: 07/15/04					Data Contact- Martha Sylvia		
Utilization and Membership		Age Statistics min	max	mean	median	Members in Claims	Average Member Months	Total Payments PMPM	Individual Average PMPM LOW	HIGH
Baseline: 07/03-06/04	Case N	20	64	46.4	47	400	395	$2,277.98	$79.65	$20,806
	Control N	21	64	46.5	47	202	202	$1,736.62	$79.58	$12,199
Year 1: 07/04-06/05	Case N	21	65	47.3	49	376	344	$2,133.18	$2.38	$26,814
	Control N	22	65	47.7	48	194	173	$1,878.84	$1.26	$13,301
Year 2: 07/05-06/06	Case N	22	65	47.9	49	306	277	$2,504.89	$0.50	$33,718
	Control N	23	64	48.1	49	152	138	$1,613.56	$6.28	$23,684
Baseline in Year 2: 07/03-06/04	Case N	20	63	45.8	47	313	309	$2,094.06	$79.65	$17,482
	Control N	21	62	46.3	47	153	153	$1,660.53	$79.58	$12,199

Utilization Measures by Category	Case Baseline	Year 1	Year 2	Year2 in Baseline		Control Baseline	Year 1	Year 2	Year2 in Baseline
Admissions/1000	1,775.7	1,490.2	1,528.5	1,695.4		1,338.8	1,209.8	936.5	1,348.6
Days/1000	7,247.1	7,817.7	7,093.0	6,574.4		5,117.3	6,494.9	4,014.5	4,988.5
Office visits/person	7.5	7.5	6.6	7.9		13.3	11.7	10.9	13.3
ER visits/person	5.4	4.7	4.3	5.4		4.7	4.1	3.5	4.7
Home visits/person	2.1	1.8	1.4	1.8		0.6	1.4	1.1	0.7
Prescriptions/person	61.6	65.2	68.7	63.8		71.5	71.8	74.0	71.9

PMPM Payment by Category	CASE Baseline	%Tot	Year 1	%Tot	Year 2	%Tot	Year 2 in Baseline	%Tot
Inpatient	$1,327.00	58.3	$1,174.82	55.1	$1,541.35	61.5	$1,174.85	56.1
LTC	$33.73	1.5	$59.15	2.8	$48.00	1.9	$23.06	1.1
Outpatient	$296.93	13.0	$240.00	11.3	$254.96	10.2	$266.71	12.7
Office	$93.81	4.1	$105.69	5.0	$102.55	4.1	$101.81	4.9
ER	$178.87	7.8	$161.12	7.6	$172.74	6.9	$180.92	8.6
Ambulance	$3.55	0.2	$2.84	0.1	$2.99	0.1	$2.99	0.1
Home	$75.22	3.3	$83.07	3.9	$58.27	2.3	$63.39	3.0
Pharmacy	$260.17	11.4	$297.26	13.9	$310.24	12.4	$271.50	13.0
Other	$8.70	0.4	$9.23	0.3	$13.78	0.6	$8.83	0.5
Total	$2,277.98	100%	$2,133.18	100%	$2,504.88	100%	$2,094.06	100%

PMPM Payment by Category	CONTROL Baseline	%Tot	Year 1	%Tot	Year 2	%Tot	Year 2 in Baseline	%Tot
Inpatient	$800.19	46.1	$942.63	50.2	$775.61	48.1	$742.74	44.7
LTC	$15.19	0.9	$26.20	1.4	$0.70	0.0	$15.10	0.9
Outpatient	$156.21	9.0	$220.77	11.7	$168.67	10.5	$154.77	9.3
Office	$150.08	8.6	$138.93	7.4	$175.49	10.9	$138.82	8.4
ER	$159.32	9.2	$127.21	6.7	$112.13	6.9	$160.25	9.7
Ambulance	$3.01	0.2	$3.59	0.2	$2.32	0.1	$2.07	0.1
Home	$48.26	2.8	$38.66	2.1	$18.89	1.2	$51.88	3.1
Pharmacy	$390.99	22.5	$369.47	19.7	$346.67	21.5	$382.48	23.0
Other	$13.37	0.7	$11.38	0.6	$13.08	0.8	$12.42	0.8
Total	$1,736.62	100%	$1,878.84	100%	$1,613.56	100%	$1,660.53	100%