Clinical and Economic Summary Report

for Employers

Magaly Rodriguez de Bittner, PharmD, CDE, FAPhA Director, P3 Program™

Dawn Shojai, PharmD
Assistant Director, P3 Program™

P³ Clinical & Economic Summary Report:

Background

The P³ Program™ is a patient-centered collaboration among patients with chronic diseases, primary care providers, and specially trained P³ pharmacists. The goal of the Program is to provide assistance to employers in improving their employees' health while also reducing overall health care costs. P³ pharmacists work with patients in face-to-face counseling sessions to provide individualized guidance in medication adherence, lifestyle changes, and disease self-management knowledge and skills in collaboration with other primary care health care providers. Through these sessions, participants learn how to better manage their medications and chronic conditions as well as how to reduce associated health risks.

Methods

Clinical and economic outcomes are discussed in the following report for 87 participants meeting inclusion criteria as listed below:

- Twelve months participation in the P³ Program for Diabetes
- Minimum of two visits during the 12 month period and two hemoglobin A1c (A1c) levels recorded (
- Availability of complete medical claims data for pre (12 months prior to enrolling in the Program) and post (12 months after enrollment in the Program) analysis.

Results

Blood Glucose Control – Hemoglobin A1c

Participants included in this analysis have had a minimum of two visits as well as two recorded hemoglobin A1c levels (n=87). HbA1c is a laboratory test which represents the average blood glucose level over the previous three months.

Approximately **35%** of participants had an HbA1c level <7.0% prior to enrolling in the P³ Program compared to **58%** after Program implementation. Furthermore, **36%** reached the lower target HbA1c of ≤6.5%. (See ***Figure 1***)

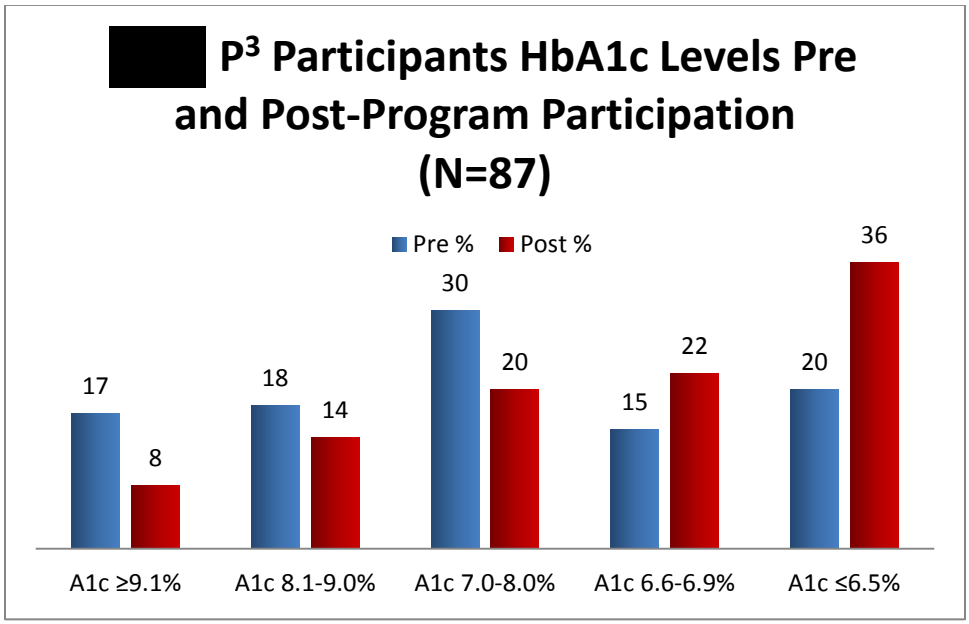


Figure 1. *EMPLOYERS P³ Participants HbA1c Levels Pre- and Post-Program Participation*

Significance:

Long-term follow-up studies[1,2] have revealed that lowering hemoglobin A1c is associated with a reduction in diabetes-related deaths, myocardial infarction, and microvascular complications.

The American Diabetes Association (ADA) guidelines[3] establish glycemic control goals for patients with diabetes and recommend a target hemoglobin A1c of <7.0% for this population. A lower goal of ≤6.5% has been established by the American Association of Clinical Endocrinologists[4].

Cholesterol Control – Low-Density Lipoprotein (LDL)

Inclusion criteria for analysis of cholesterol control consisted of a minimum of two visits with a P³ provider as well as at least two LDL values recorded in the participant's chart (n=87).After enrolling in the Program, **80%** of participants reached the recommended target LDL value less than 100mg/dl compared to **65%** before program implementation. Furthermore, the percentage of participants who had an optimal LDL value less than 70mg/dl was **40%** after the P³ Program, while **29%** met this goal prior to involvement in the Program. (See ***Figure 2***)

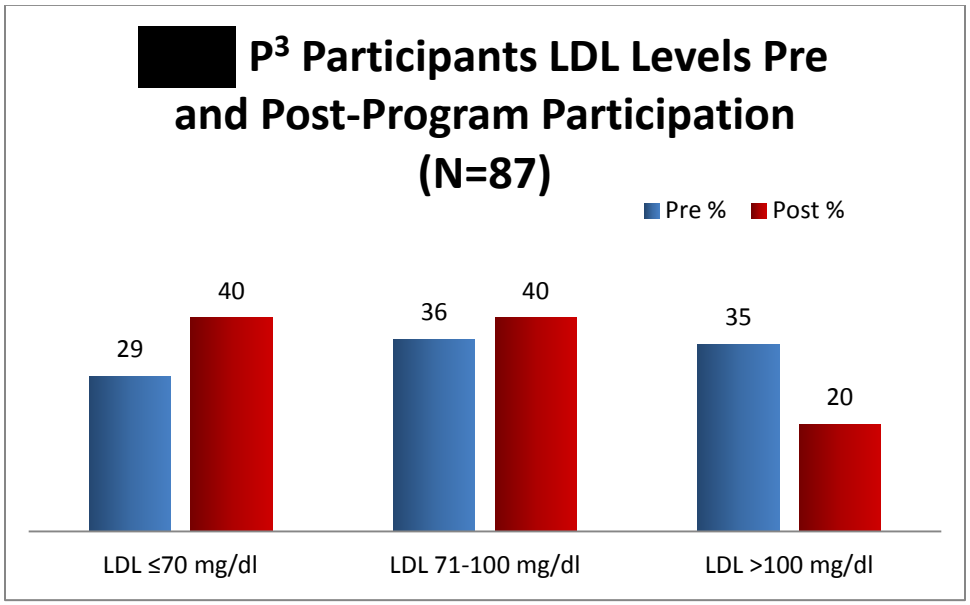


Figure 2. *P³ Participants LDL Levels Pre- and Post-Program Participation*

Significance:

Participants in the P³ Program are advised to have a fasting lipid panel drawn at least annually to assess cholesterol control. LDL levels greater than 100 mg/dl are associated with a higher risk of heart disease. Each mg/dl reduction in LDL has been associated with approximately a 1% relative risk reduction for cardiovascular events. [9,10 and 11]

The American Diabetes Association recommends an LDL goal less than 100mg/dl, while levels less than 70mg/dl are considered optimal for patients with diabetes.[3,5]

Comparison with National Quality Rates – HEDIS

Healthcare Effectiveness Data and Information Set (HEDIS) are standards established and published in *The State of Health Care Quality*[12] annual report by the National Committee on Quality Assurance (NCQA) and are used nationally to measure performance of health care plans and health systems.

The *Comprehensive Diabetes Care* HEDIS measures included in the Program are hemoglobin A1c, blood pressure, and LDL cholesterol. This dataset was drawn from The State of Health Care Quality 2012 report[12] and is used in this report to compare the performance of the P³ Program™ to national commercial health plans. The composite measures included in the report are: a)the percentage of participants diagnosed with diabetes with HbA1c less than 8.0%; b)the percentage of participants diagnosed with diabetes reaching blood pressure less than 140/80mmHg and less than

140/90mmHg; and c)the percentage of participants diagnosed with diabetes reaching an LDL cholesterol goal of less than 100mg/dl.

The P³ Program™ outperformed national commercial rates in each reported HEDIS measurement. In terms of blood glucose control (HbA1c <8.0%), **78%** of P³ participants met this goal, while national commercial plans report a rate of **61%**. With regard to blood pressure control**, 87%** of P³ participants reached a blood pressure less than 140/90mmHg, and **63%** reached the goal of less than 140/80mmHg. Diabetes HEDIS measures for national commercial plans reported blood pressure control less than 140/90mmHg and less than 140/80mmHg at rates of **66%** and **44%**, respectively. Cholesterol control, defined by LDL levels less than 100mg/dl, was significantly higher in the P³ population at **69%** compared to **48%** in national commercial plans. (See ***Figure 3***)

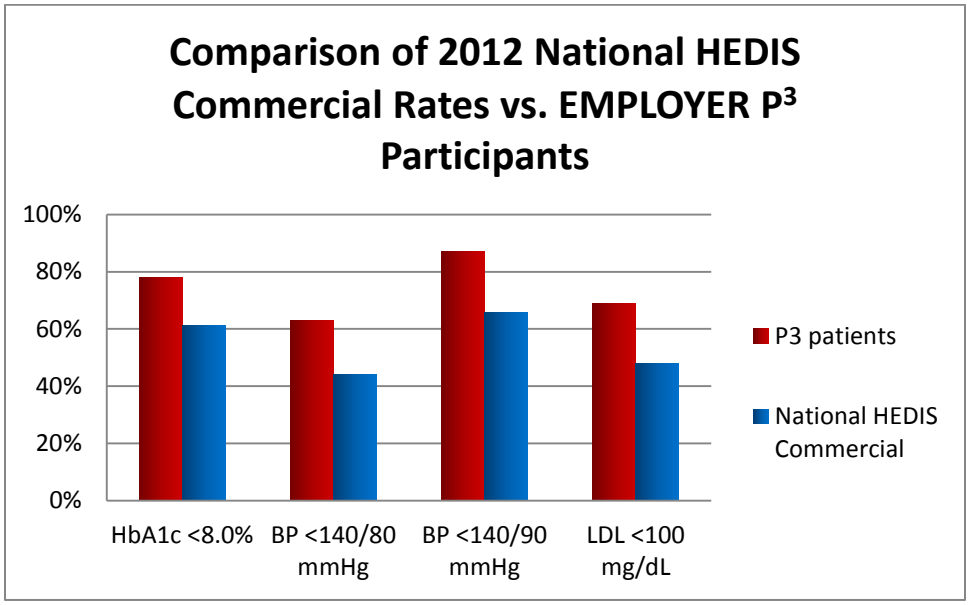


Figure 3. *Comparison of National HEDIS Commercial Rates vs. EMPLOYERS P³ Participants*

Cost-Effectiveness

The economic analysis incorporates the total medical and pharmacy costs of the 87 participants at baseline and 12 months post intervention. All costs were included, with the exception of costs associated with non-diabetes related catastrophic medical conditions. Specifically, the following ICD-9 diagnosis codes were excluded: 203; 198.50; 170.2; 277; and 585 (carcinoma, multiple myeloma, secondary neoplasm, cystic fibrosis, and end-stage renal disease, as well as anti-neoplastic medications, including revlimid). This process eliminated the outliers, and provided a more appropriate case-mix system, using administrative medical claims data.

The economic trend 12 months post-Program implementation showed a significant decrease in overall costs for the program participants with an average reduction of **$ 2,136** (See ***Figure 4***)

These direct savings were experienced due to a 22% reduction of emergency department (ED) visits and hospitalizations for the P³ participants 12 months after the program

initiation.

Savings for P³ Patients enrolled for 12 months

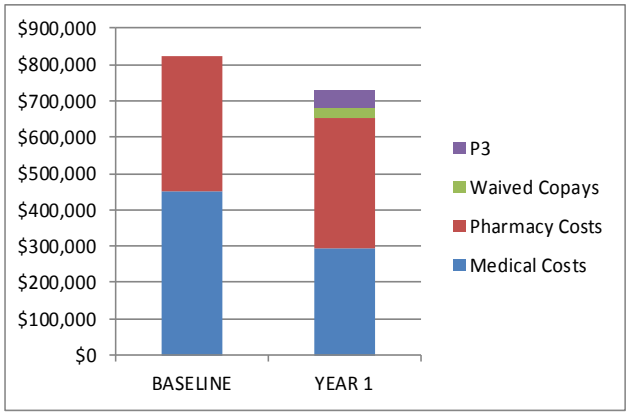
	BASELINE	Post
		$
	$-	$
	$-	$ 47,
		$
Sa		

*8% medical costs and 11.1% pharmacy utilization; 2 % inflation

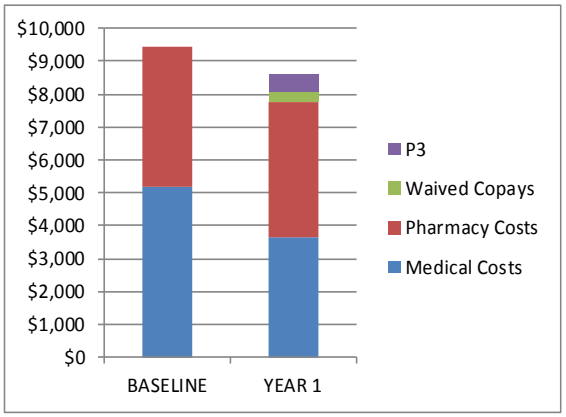
	12 mos.	
	BASELINE	Post
		$
		$

*8% medical costs and 11.1% pharmacy utilization; 2 % inflation

Comparison of Pre and Post Total Participant Costs



Comparison of Pre and Post Average Per Participant Cost



Waived copayments=$26,840, calculated from pharmacy claims

Figure 4. *EMPLOYERSCost-Savings for P³ Patients Enrolled for 12 Months*

Increased Participation

The best way to take advantage of the economic and clinical success of the P3 Program is to make sure that your eligible beneficiaries know about the Program and join. Participation has been boosted at other clients when linked to other healthy initiative such as weight reduction programs. We are eager to strategize with you in developing additional outreach efforts in hopes of increasing your program participation closer to the 600 eligible participants EMPLOYERS hoped to involve when the Program was launched.

Conclusion

The results show that the P³ Program™ is a cost-effective program that produces clinical improvements and cost savings while improving the quality of life for patients with diabetes. In this era of rising health care costs, the P³ program™ is an effective solution for employers.

References

1. Long-term follow-up results. Diabetes Control and Complications Trial Research Group DCCT. *NEngl J Med*. 1993;329:977-986.
2. United Kingdom Prospective Diabetes Study Group UKPDS. *Lancet*. 1998;352:837-853.
3. American Diabetes Association. Standards of medical care in diabetes – 2012. *Diabetes Care*. 2012;35(1).
4. American Association of Clinical Endocrinologists. Medical Guidelines for Clinical Practice for Developing a Diabetes Mellitus Comprehensive Care Plan. *Endocrine Practice*. 2011;17(2).
5. American Heart Association and American Diabetes Association. Primary Prevention of Cardiovascular Diseases in People with Diabetes Mellitus: A Scientific Statement from the American Heart Association and the American Diabetes Association. *Circulation*. 2007;115:114-126.
6. Stamler J, Dyer AR, Shekelie RB, Neaton J, Stamler R. Relationship of Baseline Major Risk Factors to Coronary and All-Cause Mortality, and to Longevity: Findings from Long-term Follow-up of Chicago Cohorts. *Cardiology*. 1993;82:191-222.
7. Stamler J, Rose G, Stamler R, Elliot P, Dyer A, Marmot M. INERSALT Study Findings: Public Health and Medical Care Implications. *Hypertension*. 1989;13:I45-I50.
8. Kannel WB, Neaton JD, Wentworth D, Thomas HE, Stamler J, Hulley SB, Kjeisberg MO. Overall and Coronary Heart Disease Mortality Rates in Relation to Major Risk Factors in 325,348 Mean Screened for MRFIT. Multiple Risk Factor Intervention Trial. *Am Heart J*. 1986;112:825-836.
9. Lee JK, Grace KA, Taylor AJ. Effect of Pharmacy Care Program on Medication Adherence and Persistence, Blood Pressure, and Low-Density Lipoprotein Cholesterol. *JAMA*. 2006;296:2563-2571.
10. Stamler J, Daviglus ML, Garside DB, Dyer AR, Greeland P, Neaton JD. Relationship of Baseline Serum Cholesterol Levels in 3 Large Cohorts of Younger Men to Long-term Coronary, Cardiovascular, and All-Cause Mortality and to Longevity. *JAMA*. 2000;284:311-318.
11. MacMahon S, Cutler JA, Stamler J. Antihypertensive Drug Treatment. Potential, Expected, and Observed Effects on Stroke and on Coronary Heart Disease. *Hypertension*. 1989;14:570-577.
12. The State of Health Care Quality 2012 Report. National Committee for Quality Assurance (NCQA) 2012. Available from: www.ncqa.org.