
PRESCRIPTION
FOR
health

PROMOTING HEALTHY BEHAVIORS IN

PRIMARY CARE RESEARCH NETWORKS

Start Up and Incremental Practice
Expenses for Behavior Change
Interventions in Primary Care

Prescription for Health is a national program of the Robert Wood Johnson Foundation
in collaboration with the Agency for Healthcare Research and Quality

About Prescription for Health

- **What:** National program of the Robert Wood Johnson Foundation with support from the Agency for Healthcare Research and Quality
- **Why:** Develop effective, practical strategies for promoting healthy behaviors in redesigned primary care practice
- **How:** Awarded two rounds of research grants to primary care practice based research networks (PBRNs)
- **Where:** In round two, 10 PBRNs across the nation studied the effectiveness of various health behavior change strategies and the in-practice expenditures necessary to provide these services



Background

- Redesigned primary care practices are well-positioned to address key unhealthy behaviors that underlie serious and expensive chronic conditions
- Two of the most commonly cited barriers to the incorporation of behavior change services in primary care are lack of practical tools and lack of reimbursement
- Little is known about how much practices spend to provide these important services

*Prescription for Health Expenditures Study

- **Objective:** Arrive at credible estimates of the start-up and incremental expenses for primary care practices to field 10 interventions
- Not a cost-effectiveness or cost-benefit analysis
- Standardized instrument was used to collect in-practice expenditures in 29 practices nested in 10 PBRNs (06-07)
- Average monthly start-up expenses were \$1860 per practice
- Average monthly incremental expenses were \$15 for provision of direct care and \$43 in overhead per participating patient

*See Appendix 1 for complete study methods and data tables

“Even when supported with external resources, practices bear additional expenses to start up and deliver health behavior change interventions.”

Prescription for Health (P₄H) Interventions

PBRN ID	Intervention	Used IT	New/ Modified Role	Population Screening	Counseling Outside Practice	Total mean start-up expenses (\$)	Overall mean incremental expenses (\$)
1	Collaboration with a local health department use of an extension agent model to promote screening, counseling, and community resource use (Adults and adolescents ≥14 years)	✓	✓		✓	1,992	305
2	Making a community health educator referral liaison available to practices who can provide patients health behavior counseling, follow up, and assistance in connecting to community resources (Adults ≥18 years)		✓		✓	4,509	63
3	Modifying 2 year old well child visits with a screening tool and health educator to prevent unhealthy behaviors (Infants 22-59 months)		✓		✓	907	10
4	Web-based tools to promote health behavior change accompanied by an interactive telephone voice response system (IVR) to prompt website use (Adults ≥18 years)	✓		✓	✓	0	71
5	Using practice enhancement assistants to provide performance feedback, training, practice change facilitation, and local quality improvement collaboratives for behavior change (Adults and adolescents ≥14 years)		✓	✓	✓	No start-up data collected	7
6	5A intervention using EMR ^b to link patients with community resources for improving unhealthy behaviors (Adults ≥18 years)	✓		✓	✓	4,426	12
7	Practice-tailored system to identify at-risk patients and connect them to community resources using Web referral resource	✓		✓	✓	0	21
8	Use of existing medical assistants to identify patients at risk for poor health behaviors and offer counseling and referral to community resources (Adults ≥18 years)		✓	✓	✓	612	2
9	Interactive telephone voice response system (IVR) to promote health behavior change (Adults ≥18 years)	✓			✓	1,122	6
10	PDA health screener to enhance counseling, communication, referrals, and follow-up related to behavior change in adolescents (Adolescents 12-19 years)	✓			✓	2,752	59

“Practice expenditures vary not only by type of intervention but also depending on practice characteristics and existing infrastructure.”

“Start up and incremental expenses ranges found in this study suggest plausibility of incorporating these services as core business in the Patient Centered Medical Home.”

“Until primary care payment systems incorporate these expenses, it is unlikely that these critical services will be readily available.”

Categories of Approximate Expenses Necessary to Start-up and Implement P₄H Interventions

	Approximate start-up expenses for staff training per practice over a mean period of 4 months (\$)	Approximate start-up expenses for non-staff and capital assets per practice over a mean period of 4 months (\$)	Approximate overhead expenses for project implementation per participating patient per month (\$)
Used IT	716	262	58
New/Modified Roles	1425	604	74
Population Screening	1267	18	14

“A large percentage of start-up expenses for the P4H interventions were attributable to staff training.”

“Adoption and implementation of health behavior change services in primary care practices is not free. At present these expenses are not regularly reimbursed.”

“The systems of care necessary to address chronic illness are similar to the systems necessary to achieve preventative care. Investment in these systems creates financial efficiencies.”

Reference:

Dodoo MS, Krist A, Cifuentes M, Green LA. Start-up and incremental practice expenses for behavior-change interventions in primary care. *Am J Prev Med* 2008;35(5S). In press.



Methods

A steering committee made decisions on the scope, perspective, sampling frame, and data to be collected in this study using established economic expenditure methods. The committee developed and piloted a user's guide and common set of standard instruments to be used to collect the economic data (available at <http://www.prescriptionforhealth.org/toolkit/index.html>). The committee assisted practices to correctly use the data collection templates, clarifying which expenditures should be collected and recorded.

This study was designed to estimate the start-up and incremental expenses of 29 practices implementing 10 nested prospective pre-post interventions within 10 practice-based research networks (PBRN) (2-3 practices per PBRN). Each intervention was designed to improve diet, increase physical activity, assist with smoking cessation, and address risky use of alcohol, using multiple tools and strategies. The practice perspective was taken and only "start-up" and "incremental expenses" associated with delivering the interventions to patients and incurred by practices were collected. Expenses incurred by patients and other groups, or associated with evaluation of the intervention and development of research tools and strategies (absorbed by PBRNs) and others were excluded from this economic analysis. Start-up expenses were defined as all preparatory expenses incurred directly by practices to deliver the intervention, and incremental expenses were defined as the additional business expenses incurred directly by practices as a result of delivering the P4H interventions.

Setting

Practices were heterogeneous, selected by the leadership of PBRNs reflecting the range of practice types within PBRNs and representative of their participating sites. They included private practices and community health centers, large (>10 physicians) and small practices, in rural, urban, and suburban locations in the Northeast, Midwest, South, and Western regions of the United States. Practices included various combinations of family physicians, pediatricians, internists, nurse practitioners, physician assistants, nurses, MAs. Practice patient populations included minority and non-minority children, adolescents, and adults; insured and uninsured, from high and low income groups.

Data Collection

Prior to data collection, PBRNs identified key steps necessary to deliver their intervention and specific expenses practices would need to incur at start-up and during the delivery phase of the intervention. PBRNs were prompted to consider vehicles, buildings, office space, and computers as capital assets, and office managers, clerical staff, supervisors, accounting staff, rent, and leases as overhead expenses. The data collection templates were standard in main categories but tailored to fit the key steps of each intervention. Aided by the user's guide and data collection instruments, practice managers and other selected practice staff collected the expenditure data. Data collection occurred as the studies were implemented or in some instances within a few months of implementation. Data sources included the financial records of practices, clinician and staff recall, tracking systems integrated into the interventions and data sources used concurrently to evaluate the impact of interventions on health behaviors. Start-up expenses were collected for the entire start-up period, which varied by practice, and were reported as total start-up expenses. To determine incremental expenses, monthly expenditures were collected at baseline (pre-intervention), during the middle of the intervention delivery phase (post-intervention time 1), and at the end of the intervention delivery phase (post-intervention time 2).

Data Analysis

Start-up and incremental expenses were estimated separately. Start-up expenses were treated as overhead expenses. Total overhead staff expenses, non-staff expenses, and capital assets were summed and reported for the entire start-up period. Incremental expenses were calculated and reported as expenditures per patient per month required to deliver the intervention. Although the interventions may not have been fielded long enough to achieve true steady state (range 5 weeks to 23 months), the average expenditures at baseline (pre-intervention) were subtracted from the average expenditures reported for the two post-intervention time periods (time 1 and 2) to calculate incremental costs. The number of patients receiving an intervention during post-intervention time 1 was used as the best monthly estimate of the number of patients receiving the intervention.

All expense estimates were expressed in 2006 dollars. Given the short observation period, discount or adjustment for time or inflation were not made. Expenditures for capital assets were spread over their years of useful life using straight-line depreciation methods.

Overall Practice Start-Up Expenses to Implement P₄H Interventions

PBRN ID	Practice ID	Start-up duration (mos.)	Staff expenses (\$)	Non-staff expenses (\$)	Capital asset expenses (\$)	Total start-up expenses (\$)
4	181	1	0	0	0	0
	184	1	0	0	0	0
	186	1	0	0	0	0
	Mean	1	0	0	0	0
6	17	6	1,716	48	0	1,764
	20	6	10,296	126	0	10,422
	24	6	1,080	12	0	1,092
	Mean	6	4,364	62	0	4,426
9	216	4	2,604	0	0	2,604
	223	3	267	84	0	351
	236	3	375	36	0	411
	Mean	3	1,082	40	0	1,122
10	48	6	2,724	0	78	2,802
	49	6	2,334	0	78	2,412
	52	6	2,922	0	120	3,042
	Mean	6	2,660	0	92	2,752
3	1	3	915	0	18	933
	4	3	1,014	0	18	1,032
	5	6	720	0	36	756
	Mean	4	883	0	24	907
8	158	2	660	0	0	660
	159	2	594	0	0	594
	Mean	2	612	0	0	612
2	61	4	2,784	564	296	3,644
	77	3	4,200	1,851	0	6,051
	84	4	3,708	124	0	3,832
	Mean	4	3,564	846	99	4,509
7	119	6	0	0	0	0
	122	6	0	0	0	0
	125	5	0	0	0	0
	Mean	6	0	0	0	0
5	No start-up Data					
1	167	2	674	2,000	92	2,766
	169	2	206	2,000	92	2,298
	170	3	774	0	138	912
	Mean	2	551	1,333	107	1,992
Overall Mean (\$)		4	1559	263	37	1860
Standard Error (\$)		0.4	427	124	13	455
Median (\$)		3	747	0	0	983

Incremental Practice Expenses to Deliver P₄H Interventions (patient/month)

PBRN ID	Practice ID	Patient Volume	Direct expenses (\$)	Overhead expenses (\$)	Overall incremental expenses (\$)
4	181	1,179	107	0	107
	184	1	22	0	22
	186	689	53	30	83
	Mean	623	61	10	71
6	17	211	-39	4	-35
	20	969	8	45	53
	24	218	10	8	17
	Mean	466	-7	19	12
9	216	25	2	0	2
	223	26	7	8	15
	236	75	1	1	1
	Mean	42	3	3	6
10	48	9	39	1	40
	49	37	65	1	66
	52	67	65	7	71
	Mean	38	56	3	59
3	1	31	10	1	11
	4	19	6	1	7
	5	39	12	0	12
	Mean	30	9	1	10
8	158	2,119	-45	40	-5
	159	90	0	9	9
	Mean	1,105	-23	25	2
2	61	95	22	15	37
	77	48	25	72	97
	84	57	11	44	55
	Mean	67	19	44	63
7	119	840	5	0	5
	122	150	10	44	54
	125	333	1	3	4
	Mean	441	6	16	21
5	690	590	6	0	6
	3680	383	16	0	16
	3770	383	-1	0	-1
	Mean	452	7	0	7
1	167	45	6	347	354
	169	5	2	275	277
	170	25	5	280	285
	Mean	25	4	301	305
Overall					
Mean		302	15	43	58
Standard Error (\$)		88	5	17	17
Median (\$)		75	8	4	18



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