

FINAL PROGRESS REPORT 5ROIMH76277-6

A. SPECIFIC AIMS

Specific Aim 1 – to compare the impact of evidence-based to usual care presentations on employer benefit purchasing behavior

Specific Aim 2 – to identify mediators of intervention impact on purchasing behavior

Specific Aim 3 - to identify organizational-level moderators of purchasing behavior

B. PROGRESS IN ACHIEVING SPECIFIC AIMS

The study enrolled 325 senior health benefit specialists in 33 coalitions and appropriately randomized 293 of them in 29 coalitions. These 293 subjects were used in experimental Specific Aim 1 while the 325 subjects were used in the non-experimental Specific Aim 2 and 3. Full manuscripts and reports are available on the study website: www.caremanagementfordepression.org/DMW.

Specific Aim 1 - Intervention Impact on Employer Benefit Purchasing Behavior

Intervention employers (n=140) received a presentation encouraging employers to purchase a high quality depression product accompanied by a scientifically-derived return on investment estimate, while control employers (n=153) received a presentation encouraging employers to work with their most subscribed health plan to improve depression treatment quality indicators. The 250 subjects followed at 12 and/or 24 months provide >80% power to test Hypothesis 1 with two-tailed p values of .05 to detect a .4 effect size with ICCs up to 0.03. There were no statistically significant differences between subjects who completed 12 and/or 24 month followup from subjects who did not in experimental condition, structure (size, type, age, geographic spread, coalition membership), health benefits (number of health plan carriers, insurance risk, benefit decision-making, benefit generosity, mental health carveout, expected benefit resources, or expected premium increase), or depression (perceived prevalence and impact).

a. Impact on Internal Discussion of Depression Products –While the intervention did not increase the proportion of employers who discussed depression products with others in the company nor their influence in these discussions, the intervention significantly influenced the content of the discussions that occurred. Discussion in intervention companies promoted the capacity of a depression product to realize a return on investment and to improve productivity more often than discussions in control companies. The three most common triggers for purchasing a depression product were a publicly visible episode of depression in the company, data demonstrating the company had a productivity problem, and increased health care costs. Almost half of employers reported that return on investment has a large impact on health benefit decision-making.

b. Impact on Appraisal and Depression Product Purchasing Behavior -

The intervention had no impact on depression product appraisal in subjects or depression product purchasing in 250 subjects. Depression product appraisal increased in companies with greater health benefit generosity whose benefit professionals were male. Depression product purchasing behavior increased in small companies compared to large companies, companies who knew a vendor that sold depression products at baseline, companies with greater health benefit risk taking, and companies with less politicalization of health care benefit decision making.

Specific Aim 2 - Social Network Impact on Health Benefit Purchasing

This analysis demonstrated significant peer influence over a one year period on how employers changed their appraisal of a depression product independent of the intervention they received: (1) directly through peer appraisal changes in the same direction, and (2) indirectly through peer deviation from the expected appraisal changes in the opposing direction.

Specific Aim 3

The conceptual model the study employed theorized that purchasing behavior could be explained by organizational, purchasing group, and vendor characteristics previous dissemination studies had identified. Analysis indicated that organizational characteristics jointly explained 4.6% of purchasing behavior, purchasing group characteristics jointly explained 1.9%, while vendor characteristics explained less than 1% of purchasing behavior. Among organizational characteristics, firm size, willingness to take on risk, and health benefit generosity were significant predictors, with larger firms, firms willing to take organizational risk and firms that offered more generous health benefits had higher odds of exhibiting purchasing behavior. Among purchasing group characteristics, the politicalization of health benefit decisions making was significant, where employers that indicated who you know was more important than position title being significantly less likely to engage in purchasing behavior. None of the vendor characteristics was significant. While very little of purchasing behavior could be explained by these covariates, selected organizational and purchase group variables were significantly associated with purchasing behavior. However, most of these characteristics were not modifiable and provide little overall guidance as to interventions to increase purchasing of depression products.

LIST OF SIGNIFICANT RESULTS

Feasibility - Although it was difficult to implement, the recruitment protocol was highly successful in engaging health benefit professionals with substantial influence over benefit decision-making; 74% of subjects reported moderate to complete influence over health benefit decision-making in their company. The protocol we utilized to follow employers over two years was very successful in achieving generalizable followup rates in which 85% of subjects stay in longitudinal analyses. This is particularly notable because no other published study has conducted longitudinal research in a national sample of health benefit decision-makers, providing the country's first data on the knowledge, attitudes, and behaviors of employer purchasers and how they change over time in response to and independently of intervention. Psychometric analysis indicates that the instruments we developed in pilot research were sufficiently rigorous to measure each construct in our conceptual model including intervention exposure, appraisal (cost-benefit), peer appraisal, organizational characteristics, purchasing characteristics, internal discussion, external (vendor) discussion, product pursuit, product purchase, and a range of covariates. A detailed description of the study, its instrumentation and its resolution of the implementation challenges have been published at www.caremanagementfordepression.org/DMW.

Intervention Impact - The intervention did not impact the frequency of internal discussion but it did influence its content to be more evidence-based. The intervention did not influence depression product appraisal or purchasing behavior over 24 months.

Peer Influence – The peers of senior health benefit professionals have observable impact on their appraisal of depression products over one year independent of the intervention.

Structural Characteristics - Widely-regarded structural characteristic demonstrated to impact dissemination (organizational, purchasing group and vendor characteristics) have little impact

on depression product purchasing behavior over two years. Significant predictors are not readily modifiable.

List of Publications:

Rost, K. and Marshall, D (2010). Marketing depression care management to employers: design of a randomized controlled trial. Implementation Science 5:22.

Rost, K. Marshall, D., Shearer, B. and Dietrich, A. (2011). Depression care management: can employers purchase improved outcomes? Depression Research and Treatment, 2011: 942519.

Rost, K., Marshall, D., Wang, S. Xu, S. and Hagman, B. (2013). Purchaser preferences in strategies to improve depression treatment. Clinical and Experimental Medical Sciences 1: 161–175.

Robst, J., Rost, K. and Marshall, D. (2013). Do employers know the quality of health care benefits they purchase? Factors related to employer knowledge of HEDIS depression scores for health plans. Psychiatric Services. 64:1134-9.

Rost, K., Papadopoulos, A., Wang, S. and Marshall, D. (2013). Understanding the “black box” of employer decisions about health insurance benefits: the case of depression products. Risks. Risks 1, 1-x manuscripts; doi:10.3390/risks10x000x

Rost, K., Meng, H. and Xu S. (2014) Work productivity loss from depression: evidence from an employer survey. BMC Health Services Research

Rost, K., Marshall, D., and Xu, Stan. (2014). Intervention impact on depression product appraisal and purchasing behavior by employers: a randomized trial. BMC Health Services Research. 14:426 DOI: 10.1186/1472-6963-14-426.

Harman, J.S., Rost, K., Goodwin, M.C., and Ivanov J. (in review). Employer purchasing of depression management products before and after implementation of the Affordable Care Act

Lee, B.S., Rost, K., Park, N.P., and Skvoretz J. (in review) Peer influence on change in employer appraisal of depression care management products.

PDF copies of these articles are available on the study website www.caremanagementfordepression.org/dmw. In addition, 4 other brief reports are also available on the website.

Employer, Purchasing Group, and Vendor Characteristics Associated with Depression Product Purchasing Behavior

Firm Characteristics Associated with Organizational Support for Risk-Taking in Providing Employee Health Benefits

Intervention Impact on Employer Influence in Depression Product Discussions

The Potential for Brokers to Market Depression Products to Employers as Health Plan Add-Ons

Program Director/Principal Investigator (Last, First, Middle):

Inclusion Enrollment Report

This report format should NOT be used for data collection from study participants.

Study Title: Influencing Employer Benefit Purchasing Behavior
Total Enrollment: 325 **Protocol Number:** NA
Grant Number: MH76277

PART A. TOTAL ENROLLMENT REPORT: Number of Subjects Enrolled to Date (Cumulative) by Ethnicity and Race				
Ethnic Category	Females	Males	Sex/Gender Unknown or Not	Total
Hispanic or Latino	5	9	0	14 **
Not Hispanic or Latino	221	89	0	310
Unknown (individuals not reporting ethnicity)	1	0	0	1
Ethnic Category: Total of All Subjects*	227	98	0	325 *
Racial Categories				
American Indian/Alaska Native	0	0	0	0
Asian	4	1	0	5
Native Hawaiian or Other Pacific Islander	0	0	0	0
Black or African American	17	4	0	21
White	200	84	0	284
More Than One Race	0	0	0	0
Unknown or Not Reported	6	9	0	15
Racial Categories: Total of All Subjects*	227	98	0	325 *
PART B. HISPANIC ENROLLMENT REPORT: Number of Hispanics or Latinos Enrolled to Date (Cumulative)				

Racial Categories	Females	Males	Sex/Gender Unknown or Not	Total
American Indian or Alaska Native				
Asian				
Native Hawaiian or Other Pacific Islander				
Black or African American				
White				
More Than One Race				
Unknown or Not Reported	5	9	0	14
Racial Categories: Total of Hispanics or	5	9	0	14 **

* These totals must agree.

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Inclusion of Children – Children were not recruited to be in the study because senior health benefit professionals are almost universally over age 21.

Data Availability - The dataset in which these analyses were conducted will be available at the Policy Service Research Data Center (psrdc.fmhi.usf.edu) in the Department of Mental Health Law and Policy at the College of Behavioral and Community Sciences at the University of South Florida through November 2019. Published and unpublished reports will be available on the study's website through 2017 at www.caremanagementfordepression.org/dmw.