Big Financial Deal

The theme of our application is to demonstrate how we used our outcome data to further integrate and enhance the profile of our program within Union Pacific. One of our best examples is the classification of Health & Welfare as a Big Financial Deal (BFD) at Union Pacific Railroad.

In this summary we will outline the history of this initiative, how BFD projects are selected, as well as the significance of this classification. Finally, the attention paid to data and outcomes will be explained.

Over the years, Union Pacific Railroad has classified specific business items that the company will focus on during the next several years. In the past, some of the Big Financial Deal type projects have included derailments, track maintenance and locomotive power. These are typical issues that are important to a railroad and have significant effects on the company's bottom line.

For 2001, the following areas were identified as Big Financial Deals at Union Pacific:

- Personal Injuries
- Fuel Costs
- Training
- Car Utilization
- Mexico Business
- Protection Guarantee
- Derailment Prevention
- Health & Welfare

Having Health & Welfare classified as a Big Financial Deal is a sign that health has truly risen in importance and is destined to become more integrated within the corporate structure.

It is important to note that health promotion dominates the list of projects under the Health & Welfare BFD.

In choosing BFD categories, several things need to happen. Management has to be aware of the problem, be aware of previous data and believe there are solutions available to address the issue. It was clear during the selection of the 2001 Big Financial Deal categories that these three criteria have been met in the health promotion area. Our previous data included in this application, as well as from previous years, has been shared with senior management on a consistent basis. We have seen an incremental level of understanding concerning health issues and outcomes among our senior management. In the Big Financial Deal project proposal, we have shared plans to not only enhance our current initiatives but to also study and take a proactive approach towards a more integrated health & productivity management model.

While in the past, the health promotion program received senior management support, the Big Financial Deal classification clearly raises the level of magnitude for addressing health issues within the company. With increased visibility comes more accountability. Since its designation, the health promotion department has been required to provide more ongoing reports than ever before. Senior management is briefed on the status of each BFD monthly. Progress is tracked at various levels including planning, execution, resources dedication and results. This classification also brings more focus on the need for data and outcomes. Having Health & Welfare receiving this designation clearly solidifies health promotion as being an integral part of the company's overall mission.

Health Care Costs Summary

It is important for the health promotion field to recognize that other data besides risk reduction percentages and health care costs is helpful for a program to survive and thrive within a company. One dataset that has aided the continued growth of our program is the "Projection of Future Medical Care Costs Using Four Scenarios of Lifestyle Risk Rates" article which appeared in the October issue of the American Journal of Health Promotion. In addition to the results, there were three significant outcomes that happened as a result of this analysis. (Please refer to Appendix A for a citation and abstract of the American Journal of Health Promotion article).

Union Pacific Railroad (UPRR), like many other companies with health promotion programs, is frequently asked to justify the costs of their program. The evolution of our program over the years is evidence that we have been successful making our case. In 1998 however, we decided to take an even more proactive role in addressing this issue by turning the argument around to "What if our program was eliminated?".

This article looked at future health care costs under four scenarios. The first scenario projected health care costs based on our program being eliminated. The second scenario kept our program the same in terms of 1998 dollar and outcomes. The third scenario noted what would happen to health care costs if we achieved a one percent reduction in risk status over ten years. Finally, the fourth scenario noted how health care costs would be effected if our program produced a ten-percent reduction in risk status over the ten-year period. It is important to note that this is the result we have seen in our program since 1990 (1% reduction in overall risk per year). The bottom line difference between program elimination and the continuation of a one-percent reduction in risks was \$99.4 million dollars over a ten-year period. Therefore, under scenario four, assuming an annual budget of \$1.9 million (the amount currently spent), the cost-benefit ratio would equal \$4.07 in savings for every dollar invested in the program. We noted in the article, and to our management that this estimate was conservative and did not take productivity loss costs into account. Please refer to Table 1 below for a summary of the scenarios mentioned above.

The second significant outcome from this study was in focusing senior management's attention on measuring the impact of health and productivity loss costs related to health. While in the past we were able to get the attention of senior management by showing the impact of health promotion on health care costs, this article brought the issue of health care cost containment and productivity loss costs to the forefront.

The third positive outcome from the article, which is related to the second one, is that it served as one of the key drivers behind Health & Welfare receiving Big Financial Deal status at Union Pacific.

It is important to recognize and use data to enhance and evolve the program internally. At UPRR, we have stepped up this emphasis and have gained experience and success in positioning data to achieve increased attention and resources for our health promotion program.

Table 1. Projected Costs for Four Different Program Scenarios of the Effectiveness of Health Promotion, in Constant 1998 Dollars

	Scenario 1 (Underlying risk trends preserved)	Scenario 2 (Risks constant at 1998 levels)	Scenario 3 (Risks decrease by 0.1% / year)	Scenario 4 (Risks decline by 1.0% / year)
Current Costs(1998, in millions)	381.9	381.9	381.9	381.9
Projected Costs (2008, in millions)	99.6	88.5	78.9	22.2
Increased Costs, 2008-1998				
Millions Percentage	481.5 26.1%	470.4 23.2%	460.8 20.7%	404.1 5.8%
Difference from Scenario 1 Millions Percentage	\$0.0 0.0%	\$11.1 2.9%	\$20.7 5.4%	\$77.4 20.3%

Project Health Track

In our 1997 application one of our new datasets was the benefit:cost ratio from our Project Health Track pilot study. The article from this study was one of the eleven studies noted in Dr. Pelletier's article entitled: "A Review and Analysis of the Clinical and Cost-Effectiveness Studies of Comprehensive Health Promotion and Disease Management Programs at the Worksite: 1995-1998 Update (IV)", American Journal of Health Promotion, July/August 1999. Our study received a five star rating in this review. (Please refer to Appendix B for a citation and abstract of this article.)

Not only did that study receive external recognition, but it also received internal attention as well. We believe it is important for Koop award reviewers to realize that while new data is important, it should also be equally and arguably more important to see how previous results from award winning programs were responded to back at the company. To this end, it should be noted that Project Health Track has grown considerably in focus, scope and recognition since 1997. Project Health Track now focuses on other health issues beside cardiovascular health, including the chronic disease states of diabetes and asthma, mental health areas of stress, depression and fatigue which is a relatively new area for assessment and intervention. Project Health Track is now a core program at Union Pacific Railroad and most employees are familiar with it. We also expanded the scope of Project Health Track to include other behavior change programs. The behavior change results from other Project Health Track intervention programs have continued to match, or in some areas exceeded, the forecasted returns cited in the original Project Health Track article. It should also be recognized that Project Health Track is one of the major initiatives making up the Health & Welfare BFD.

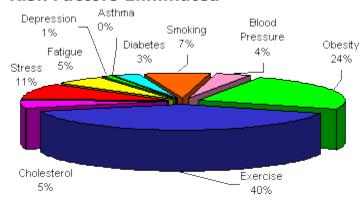
We are continuously expanding the reach of Project Health Track and believe that it provides UPRR a framework for addressing the health needs of our employees. Project Health Track, and the data from Project Health Track, serves as an example of how a health promotion program can gain acceptance and credibility within an organization.

Table 2.

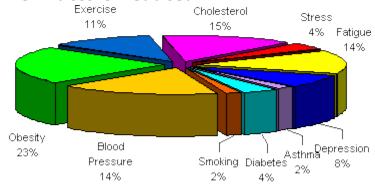
HRAs Completed	
1999	9986
2000	7085
2001 (through April 30th)	3070

Aggregate Behavior Change Data for 2000 from our Telephone Counseling Intervention.

Risk Factors Eliminated



Risk Factors Reduced



In keeping with our 2001 theme of how we capitalized off our old and new evaluation data to evolve our program. One of our best examples is in the area of smoking cessation.

In 1999, UPRR changed its smoking policy, making it more restrictive. While we have provided smoking cessation assistance for years, we looked to use our policy change to enhance our program offerings. Soon after the policy change, we applied for and received a grant to conduct a smoking cessation study using our counseling protocol coupled with Zyban. The results from this study were published in the Winter 2001 issue of Worksite Health. (Please refer to Appendix C for a citation and abstract of this article.) The six month quit rates are summarized in table 3 below.

Smoking prevalence at Union Pacific has dropped from 40% to 26% over the last eight years. However, smoking is still a problem at certain worksites and with some employee groups. Therefore, smoking cessation is one of our Big Financial Deal projects for 2001.

The results from this study helped us evaluate the caliber of our smoking cessation program. After the study we reviewed our health plans to determine which ones did not cover Zyban in their formulary. We are currently working with all of the health care plans that did not cover Zyban to include it next year. In fact, our largest health care provider on the union side has verbally committed to add Zyban to their formulary later this year based on the results of the study and the company's persistent push for its inclusion.

We now have a comprehensive system-wide smoking cessation program that includes several intervention strategies, on site and telephonic counseling and pharmacological assistance (Zyban) available to all employees. The other main components of our revised program includes screening and readiness protocols. You will notice in the study that we differentiated between compliers and non-compliers. From the study, we learned techniques and strategies for working with non-compliers, which we believe, will enhance our compliance rate. This system-wide initiative came about because we were able to demonstrate an effective intervention strategy for smoking cessation.

This program served as a model on how we can address risk or disease specific issues in the future. In short, we followed the sequential model below.

Putting action behind results is how we have evolved our program. We plan to continue using this model to evolve our program and enhance our intervention strategies.

Sequential Model

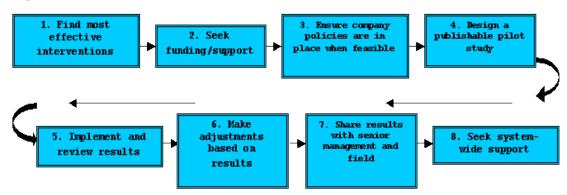


TABLE 3. Quit Rates By Counselor (six month evaluation)

Counselo	Counselo r Caseload	# Qui t	Overal 1 Succes s %	# of Complier s	Quit Rate Complier s	# Non- complier s	Quit Rate Non- complier s
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#1	48	22	46%	29 (63%)	20 (76%)	19	2
#2	30 + (1 death*)	5	16%	8 (26%)	5 (63%)	22 + (1 death*)	0
#3	21 + (1 death*)	2	9%	9 (41%)	2 (22%)	12 + (1 death*)	0
Totals	101	29	29%	46 (46%)	27 (59%)	55	2

* due to causes unrelated to the medication used in this study.

Railroads are unique in several ways when it comes to health care costs and coverage. For example, the railroad remain s to be an industry where health care claims are industry-based. This means that the unions, carriers, and health care providers all negotiate coverage for all union employees across all Class 1 railroads. A second unique feature is that there is an agreement among all three parties noted above not to share individual carrier data. In other words, it is difficult and sometimes impossible for Union Pacific or other railroads to have access to their own health care data including charges and payments by providers. The main reason behind this agreement is that if individual carriers are seeing their costs on a frequent periodic basis a carrier may choose to opt out of national negotiations. This is a good arrangement for the unions and the providers but not necessarily an ideal arrangement for carriers. The reasons for this explanation is to describe the difficulty railroads have in accessing its own health care data for various analyses.

Union Pacific has been able to negotiate periodic reviews of our health care claims data for determining the impact of our health promotion and other prevention programs. Therefore, we would like to highlight changes in health-related expenses that we have seen from these periodic snapshots. The highlights of this section will focus on comparing data from 1990 to 1998. There are several positive trends that we have seen from this data.

First, it is important to note that we have been successful in integrating our health promotion program into other departments of the company. For example, we have spent a great deal of effort integrating our health promotion initiatives into our safety and disability management departments. These efforts have yielded some positive findings. As you will see below, there have been significant improvements in personal injury and disability costs as well as health care costs per employee and health benefits costs avoidance. Table 4 shows that there is a 21% decrease in personal injury health related costs. We feel this decrease is in part

due to our proactive safety and health integration. Increased emphasis and resources have been devoted to making the workplace safer. An education campaign has helped employees see the connection between personal responsibility and safety on the job. The reduction in personal injury costs are directly related to the decreases in long term disability costs also noted in table 4 on the following page.

We have also integrated our health promotion program into the Return-To-Work process. Specifically, our program called SHIP (System Health Facilities Injury Protocol) is designed to provide injured employees with one-on-one personal training at our System Health Facilities. The premise behind this program is that by helping employees maintain or improve their fitness levels they are more likely to return to work faster and are less likely to be re-injured. A study conducted in 1998 is summarized in Table 5, on the following page. In brief, this study demonstrated the relationship among health care claims, health risk factors and safety incident data. The results from this study helped us further integrate health into the safety department. Again, this is a demonstration of using our evaluation data to obtain a desirable outcome for our program.

Comparing health care costs from these two years reveal that health costs per employee has decreased over this period. Internal and external analyses demonstrate that our health promotion program has yielded nearly \$40 million in lifestyle related health benefits cost avoidance and beyond, since our analysis conducted in 1998.

During this same time period (1990-1998) we have decreased the amount of money spent on physical exams and have increased the budget for health promotion. Over this eight-year period our health promotion budget has increased nearly fourfold from \$500,000 to over \$1.9 million by re-allocating money spent on lower yielding less evidence-based health programs.

In summary, while it is difficult to obtain our health care cost data on a consistent basis, we are able from time to time to review some cost data to give us an indication of our program's effectiveness.

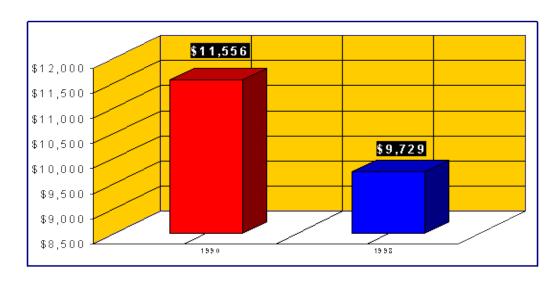
Note: We are not suggesting that UPRR has not reviewed any health-related data over this eight-year period. However these two time periods (1990, 1998) are used to emphasize the achievement made from our integrated health promotion program.

Table 4.

% and dollars as part of overall health related costs for that year			
	1990	1998	
Personal Injury	24% (\$93.1 million)	3% (\$17.9 million)	

Personal Injury Medical 5% (\$18.8 million) 3% (\$17.1 million)

Long Term Disability 5% (\$17.8 million) 1% (\$3.6 million)



Health Costs Per Employee

Table 5.

Examining the relationship among health care claims, health risk prevalence rates and injury claims revealed the following predictors. It is important to note that all predictors are lifestyle related. The primary predictor for both categories signifies the importance of perceived health status. Those noting their health was "other than excellent" were more likely to experience an injury and higher overall health care claims. These findings helped us further integrate health promotion into safety and have broad implications for health promotion programs.

Predictors			
Injury	Health Care Claims		
Health Status	Health Status		
Tobacco Use	High Blood Pressure		
Stress	Diabetes		
Weight	Stress		
	Overweight		

The main theme of our 1997 application was how we integrated our health promotion program with other departments and programs. In 2001 we are pleased to report that we have continued to further integrate our program within the company and have enhanced the stature of health promotion within the organization. In this section we would like to highlight six examples of our integration efforts. Because of our demonstrated success, as well as our ability to fit into these existing structures, we have gained broader acceptance of our program.

First, achieving the status of a BFD (Big Financial Deal details on page 1) is a demonstration that we have arrived in terms of integrating health within the corporate culture. This status is granted only to projects that warrant senior management attention and significant corporate resources. We were told that our previous results and strategic planning are responsible for us gaining this recognition.

Our main integration effort over the last four plus years has been with our Alertness Management Program. The health promotion department started addressing fatigue back in 1992 with a behavior change initiative. In 1997, our department was instrumental in gaining company commitment to initiate a comprehensive alertness management program. From the start, the major difference between our alertness management program versus others in the industry was the integration of health promotion within the program structure. Other organizations, especially railroads, focused solely on scheduling train service employees. Our comprehensive effort has a four prong approach which includes: education, scheduling, sleep disorders screening and strategies. Health promotion has been integrated into all four components. For example, we modified our Health Risk Appraisal to include an assessment of fatigue risk among our employees. We then designed interventions to help employees reduce and better manage this risk factor. In the strategy section we noted in all our communications with employees the importance of exercise and proper nutrition for dealing with fatigue. Health was also incorporated into other strategies that were part of this component.

The health promotion department received more resources for integrating with our alertness management initiative. This was due to our ability to demonstrate not only our previously cited health and cost outcomes, but also our reputation of being able to effectively reach, communicate and educate our employees. These strengths are seen as vital to the success of the alertness management program.

Over the years we have continued to integrate our health promotion program into our safety department. Safety has a significant and prominent role at UPRR. In our 1997 application we presented data demonstrating the relationship between health and safety. Our enhanced integration efforts with safety are a result of this data. Using this data and the program's maturity has helped us gain credibility and influence within established departments like safety.

The train service employee group is the employee group that is hardest to reach. Typically, these employees do not go to work at the same time or place, they rarely assemble as a group and sometimes go for an extended time without seeing a company agent or supervisor. Because of our integration with alertness and safety departments we have gained further access to train service employees through their regulatory testing program. Most departments who try to reach this group make a plea to become part of their regulatory training program. In 2000, we became an integral part of their two mandatory training sessions. Participation in our programs is still voluntary, however gaining access and acceptance at the train service training classes will add a sense of legitimacy to our program among this hard-to-reach employee group.

The fifth example of integration is within our occupational medicine group. Different crafts require various medical screenings and tests such as fitting for respirators, eye exams or hearing tests. Project Health Track is presented as a voluntary program during these exams. Getting time at meetings, or in this case screenings and agendas is always a challenge. Providing sign-up or screening opportunities for large employee groups takes careful planning. Allowing us to be part of these regulatory tests helps us bypass many of these obstacles.

Since 1999, we have taken incremental steps toward aligning our program with our non-agreement benefits. For example, In 1999, we made a special appeal to all managers to participate in Project Health Track. Our response rate among managers was nearly 60%. Project Health Track was also mentioned in their benefits enrollment information. In 2000, we included a special flyer in their benefits enrollment information. In 2001, we are positioning Project Health Track as one of our added benefits for our non-agreement employees. Our chairman is personally sending an email to all non-agreement employees pointing out enhanced benefits, including Project Health Track, and making a special appeal for all non-agreement (and agreement in a separate mailing) to take advantage of these additional benefits, especially the Project Health Track program. We are also planning to include Project Health Track information, including the HRA, in the non-agreement benefit enrollment packets for 2002. Beyond 2002, we are reviewing several incentive options to enhance participation among our non-agreement employees.

Our current union agreements do not provide us with much flexibility concerning the ability to integrate our health promotion program into the existing union benefits design. There are several barriers to including Project Health Track into their benefits structure. Several conversations and presentations have been made to the industry groups. (Representatives from all groups-providers, unions and railroad who negotiate the benefits design). Feedback has been positive. Furthermore, a plan has been put in place to take incremental steps towards integrating our health promotion program into their benefits package.

Integrating health promotion programs into existing benefits structures is a large task for any company. The railroad industry with its unique benefits design, coupled with its union agreement complexities, adds

several levels that will take time to work through.

Our movement towards integrating health promotion into the benefits structure is a demonstration of our

corporate commitment towards health promotion.

It should be noted that data for this section is reflected in the outcome. In other words, we have been able

to further integrate our programs within these corporate structures because of our previous data and

evidence of effectiveness. Again, our hope is to show a new evolution of applications by using data to evolve

an existing program.

We continue to look for ways to integrate our programs into existing company structures. Integration has

gained our program recognition, credibility and additional resources.

In 1997, the health promotion and alertness management departments formally integrated their programs.

Fatigue became a recognized risk factor and health condition. The most significant contribution of the

alertness management program to health promotion was the accelerated and renewed emphasis placed on

the environment and its relationship to health.

The four main components of the alertness management program are education, scheduling, strategies and

sleep disorders. The component of scheduling signifies a cultural shift for railroad employees. By including

the health services department in the scheduling modification project we were able to bring health and

quality of life issues to the forefront. Our major premise is that we must provide employees with a

comprehensive and integrated approach for managing fatigue, their overall health and quality of life.

Education about fatigue has been integrated into our health promotion program since 1997. After planning

and negotiating with the unions, three scheduling agreements were put in place during 1999-2000.

Table 6 provides data concerning employees reactions to these scheduling agreements.

While there is plenty of room for improvement, we now feel that our revised strategies for scheduling in

2001 will build on the successes we have seen in the past.

A review of our alertness management program has been published in the Summer 1999 issue of Worksite

Health. (Please refer to Appendix D for a citation and abstract of this article).

Table 6. Scheduling Survey

Consists of Data from three sites: LeGrande, OR; Seattle, WA; Cheyenne, WY (N=78)

Question	% of positive responses
Did the crew scheduling (work/rest cycles) agreement have a positive effect on employee?	65%
Did the work/rest cycles agreement enhance their quality of life at work?	57%
Will the work/rest cycles agreement with modifications address their rest and quality of life needs?	69%
Do family member/significant others know about crew scheduling (work/rest cycles) agreements?	90%
Are family members/significant others satisfied with the crew scheduling (work/rest cycles) agreement?	60%
Do family members/significant others have positive perception of the effect of the crew scheduling (work/rest cycles) agreement on the family?	65%
Do family members/significant others feel the crew scheduling (work/rest cycles) agreement helped the employee better manage fatigue?	53%
Do family members/significant others feel that the crew scheduling (work/rest cycles) agreement enhanced quality of living at home?	67%

There are three new datasets connected with our physical fitness program that we would like to report.

The System Health Facilities (SHF) program is our longest running program. There are currently over 450 company sponsored exercise facilities that employees may use free of charge. We believe that this may be the most extensive company sponsored exercise program in the country. This program began in 1989 and serves as our foundation. The SHF program was originally intended for train crews who laid over at away-from-home terminals according to federal hours-of-service regulations. The program first became available at the top 15 most populated away-from-home terminals. It quickly spread to include other work groups and locations. Membership in the program has always been good, however, since 1998 we began to change our current entry procedures. Prior to 1998, potential participants needed to get a doctor's signature on their medical release form. There was ample evidence to suggest that the doctor's signature was the primary

barrier to entry. A modified Par-Q was proposed to replace the medical release form. This change took place in 1999. Since the switch we had a 144% increase in membership in less than 2 ½ years. (Please refer to Table 7 below for membership and usage for the past four years.)

It should be noted that prior to this switch, membership was considered to be at an acceptable level.

However, this change resulted in what we believe to be best-of-class membership percentages for a multisite program. Besides membership increases, usage at the facilities has nearly doubled.

Our second dataset details the results from our police fitness testing program. Since 1990 the health promotion department has developed and implemented a fitness testing program for our police department. We have seen a significant incremental improvement in fitness levels among this population. For example, since 1997, we have seen nearly a twenty-three percent improvement in fitness testing scores among this population. Also, there has been a 80% reduction in injury rate since 1998 for this group. This is an important outcome for the police department. Because of the success of this fitness testing protocol, other departments and programs are looking to use the testing program for their work groups and participants.

The third data set regarding our exercise program is less traditional, but as you will see, extremely important for the future success of our program.

UPRR is planning to build a new Headquarters building in Omaha. There are currently over fifteen buildings throughout the Omaha area used to house Union Pacific Railroad employees. The new building will allow all Union Pacific employees in the Omaha area to be in one location. The fitness center was included during the initial planning stages of the new building. The inclusion of the fitness center in the new building plans along with a doubling of the space allocated is a clear demonstration of senior management's satisfaction and commitment to our program and facility. While working with our architects for the new facility they informed us that our senior management's commitment to the fitness center is the highest level they have seen among senior management of a corporation they have worked with.

As mentioned earlier, this is less traditional data, most practitioners would agree this is some of the best support that could be obtained for a program.

Table 7. System Health Facilities By Year

Year	Total SHF Members	Total SHF Use
1997	10,423	133,742

1998	13,877	139,289
1999	19,4791	221,335
2000	23,058	243,556
2001	24,6102	75,6963

¹ change in entry requirements January 1, 1999

2 Estimates based on four months of data

3As of April 30, 2001

Appendix A.

Citation

Leutzinger JA, Ozminkowski RJ, Dunn RL, Goetzel RZ, Richling DE, Stewart M, Whitmer RW. Projecting future medical care costs using four scenarios of lifestyle risk rates. *Am J Health Promot.* 2000 Sep-Oct;15(1):35-44

Contact for Reprint

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Abstract

This study predicts medical care expenditures over 10 years for Union Pacific Railroad (UPRR) under alternative health risk factor scenarios for the UPRR workforce. DESIGN: This paper describes the development of an economic forecasting model to predict medical care expenditures assuming four different scenarios of population risk. The variables used to predict medical care expenditures are employee demographics and health risk profiles. SETTING: UPRR is a transportation company with more than 56,000 employees in 25 states west and south of the Mississippi River. SUBJECTS: Employees of UPRR. MEASURES: Intermediate outcomes included health risk measures related to exercise patterns, body weight, eating habits, smoking, alcohol consumption, total cholesterol, blood glucose, blood pressure, stress, and depression. Major outcome measures included projected total annual payments by UPRR for medical care

services for the decade following 1998. RESULTS: The UPRR work force is projected to grow by 500 employees per year over the 10-year study period. The average age is expected to increase from 44 to 48 years. Without further health promotion intervention, 7 of the 11 risk factors assessed would likely worsen among UPRR's workforce. Medical care cost increases are projected to range from \$22.2 million to \$99.6 million in constant 1998 dollars over the next decade, depending on the effectiveness of risk factor modification programs. With an expected health promotion budget averaging \$1.9 million annually over 10 years, health risks must decline at least 0.09% per year for the program to pay for itself. CONCLUSIONS: Estimating various risk and cost scenarios can facilitate program planning and produce an economic justification for worksite health programs.

Appendix B.

Citation

Pelletier KR. A review and analysis of the clinical and cost-effectiveness studies of comprehensive health promotion and disease management programs at the worksite: 1995-1998 update (IV). *Am J Health Promot.* 1999 Jul-Aug;13(6):333-45

Contact for Reprint

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Abstract

The fourth in a series of critical reviews, this study examines the clinical and cost outcome evaluations of 10 worksite health promotion programs that were comprehensive, multifactorial, and directed at risk management. The studies, conducted between 1994 and 1998, indicate favorable clinical and cost outcomes and suggest characteristics of worksite interventions that may be critical for effectiveness.

Appendix C.

Citation

Joseph A. Leutzinger, PhD, Chris Harter, MS, Bill Craynor, RPh. Smoking Cessation for Blue-Collar Workers Using One-On-One Counseling and Bupropion: A Pilot Study. *AWHP'S Worksite Health*, Winter 2001, pp33-39.

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Appendix D.

Citation:

Joseph A. Leutzinger, Denny W. Holland and Dennis E. Richling. Good Moon Rising: Union Pacific Railroad's Alertness-Management Program. *AWHP'S Worksite Health*, Spring 1999, pp16-20.

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