BACKGROUND

More than ever, employers are recognizing the critical role they can play in creating healthy environments – not only to support the well-being, productivity, and happiness of their employees but to stem rising health care costs resulting from our nation's chronic disease epidemic. With about 4,500 employees and nearly 11,000 covered lives on employer-provided health plans, Multnomah County's organizational and employee wellness policies and programs can play a role in supporting healthy living.

At the request of the Chair's Office, a Wellness Initiative Committee was created with representatives from Benefits and Wellness, the Health Department's Community Wellness & Prevention Program, Labor Relations, Finance and AFSCME Local 88. The Committee was charged to perform an assessment of the county's current employee wellness program and to assess and develop recommendations for an effective employee wellness program.

It is a public health best practice to collect stakeholder input and complete a comprehensive assessment of available data in order to develop an effective health promotion intervention. Therefore, the tasks undertaken by the Committee included: 1) an analysis of employee health data available through reports created by the County's health insurance carriers, Kaiser Permanente and ODS, 2) development of an employee survey, 3) report of the current Wellness offer, 4) report of the current health policy work and 5) review of existing research on best practices and return on investment (ROI) for wellness programs across the Country.

1. OVERVIEW OF HEALTH DATA ANALYSIS

The Health Department's Community Wellness & Prevention Program provided an analysis of employee health data from the 2009-2010 plan years.

The health data analyzed included combined information for both Multnomah County employees, retirees and dependents who receive health care through Kaiser or ODS. There was more complete health information for Kaiser than for ODS; however, data analysis does not indicate that there is a significant difference between employees who receive care through Kaiser versus ODS. Also, data was not broken out for employees/retirees versus dependents, so differences in health data and the impact of the wellness program may not be distinguishable in the data.

Key findings from the data analysis include:

1. *Rates of overweight/obesity:* About 3 out of 4 Kaiser members for whom data is available are overweight or obese and about 1 in 10 are in the highest obesity category (body mass index, BMI, of 40 or more). The overweight/obesity rate among county plans not only exceeds that of the broader county and state adult population, but also some of the highest rates across the country, such as the state of Mississippi where 68.8% of the adult population is overweight/obesity (BRFSS 2010).

2. *Rates of depression:* Kaiser members with diagnosed depression is 7.1%; estimated prevalence of depression in ODS members is 4.2%. The variability of these rates may reflect different screening and recording methods used by each health plan. Additionally, in 2010, ODS did not have access to prescription utilization to include in estimated prevalence. Within the Kaiser population, there is a higher proportion of county employees/retirees (and their family members) with this diagnosis compared with the entire regional membership of Kaiser (i.e. county membership and everyone else with Kaiser NW coverage). Seventy percent of those who were diagnosed with depression were taking antidepressants 12 weeks after diagnosis, and about 56% continued on antidepressants 6 months after diagnosis. This could indicate a need for greater emphasis on management of depression.

3. *Diabetes management:* About 1 in 5 Kaiser members with diabetes for whom data is available do not have good blood sugar control (as measured through HbA1C, a lab test that measures the amount of sugar in the blood). Although this seems to be in line with the broader Kaiser population and better than national numbers, there is room for improvement and opportunities to reduce the risk of heart disease and stroke.

4. *Tobacco use:* Data for employees and family members covered by Kaiser shows a 13.1% smoking rate which is much lower than the general Kaiser NW population but could be improved upon given that tobacco use remains the leading cause of preventable death in Multnomah County and the nation.

5. *Preventive cancer screenings:* The proportions of Kaiser members getting preventive screenings for breast, cervical, and colorectal cancer are 81%, 88%, and 74% respectively. County membership is doing quite well with preventive screenings compared with the general Kaiser NW population; however, there is room for improvement given the potential benefit of improved health outcomes and averted health care costs.

6. *Childhood immunizations:* Of all children on the Kaiser plans aged 18 to 23 months, 70.5% had all their childhood immunizations appropriate for this age group, which is slightly behind the county and state rates and shows room for improvement.

It is worth noting how the available member data for Multnomah County compare on select health and risk factors to Multnomah County as a general population and the State of Oregon.

	Multnomah County Employer Health Plan	Multnomah County as a whole (BRFSS[6] data 2009)	Oregon state (BRFSS[6] data 2010)
Overweight/Obesity	74.7% [1]	55.6%	60.9%
Smoking Prevalence	13.1% [2]	15.3%	17%
Diabetes	4.5% [3]	6.2%	7.2%
Depression	4.2% (ODS) [4] 7.1% (Kaiser) [5]	N/A	7.1%

Footnotes:

1 Data available between Oct 2009-Sep 2010 from 55.5% of Kaiser members ages 21-74 (excluding those receiving maternity care)

2 Data available between Oct 2009-Sep 2010 from 97.1% of Kaiser members ages 18+

3 Data available between Oct 2009-Sept 2010 from Kaiser members as defined by HEDIS

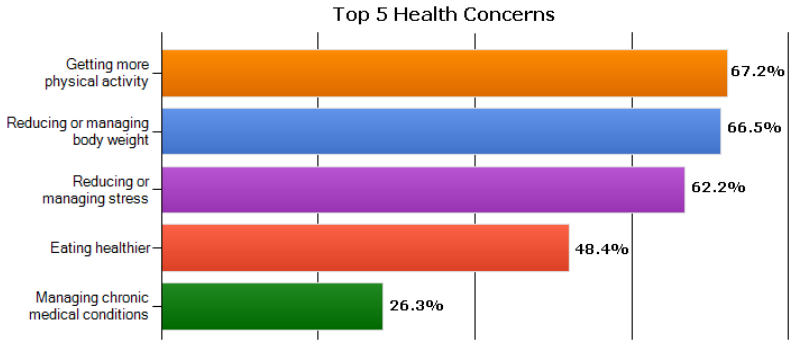
4 Data available 2010 plan year from ODS enrollees based on analysis of health claims (does not include analysis of Rx claims)

5 Data available between Oct 2009-Sept 2010 from Kaiser members as defined by HEDIS

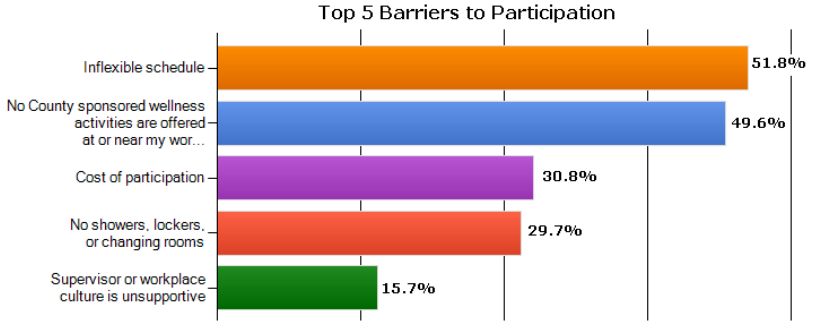
6 Behavioral Risk Factor Surveillance System, a telephone survey conducted monthly by the Centers for Disease Control.

2. EMPLOYEE SURVEY FINDINGS

An electronic survey was conducted in early May 2012 to gather health data from employees as well as gauge preference and receptiveness to wellness program changes. We received 555 responses with all County department represented. Almost 92% of respondents identified one or more concerns they currently have about their own health and wellness, with responses related to physical activity or weight topping the list.



Most (56.7%) of the respondents are current or past participants in Wellness Program offers, 28% responded that they were unfamiliar with the offers available, and almost 15% responded that the current offers were not appealing. When asked about participation in a list suggested offers, fitness classes were the most popular (67.1%) followed by wellness workshops (57.6%), walking events or clubs (50.4%) healthy cooking classes (46.6%) and weight management program (43.8%).



The survey also asked about barriers to participation. Almost 69% of

respondents have experienced barriers to participating in County-sponsored wellness activities while at work. Inflexible schedule topped the list, and (although not provided as a response option) many of the related comments related to having a lack of time, including work/life balance, to devote to wellness activities.

3. CURRENT WELLNESS PROGRAM INVENTORY AND BUDGET

The current County Wellness program offers many services to employees that include but are not limited to: access to commercial grade fitness equipment at two Wellness Fitness Centers and eight Wellness Equipment Locations, on-site fitness classes tailored to work schedules, access to a basic Employee Assistance Program (EAP), loan of lactation equipment to breastfeeding mothers returning to work, library of wellness related subject matter and an incentives program for weight management. A number of additional small-scale wellness resources are also available.

Resources to operate the existing program consist of 1 FTE and a budget of approximately $302,000, which is allocated to provide wellness opportunities at or near the County's many work site locations in an effort to make services available to the organization's 4500 plus employees. There is limited reach to the County's 800+ retirees or to dependents of employees/retirees.

There are also many wellness elements embedded in the County's six medical plans. Routine physical exams, preventive screenings and well baby care are covered under all medical plans at a reduced or no cost to participants. Disease management and care coordination programs are offered for members with chronic conditions including: cardiac/Coronary Artery Disease, diabetes, respiratory/asthma, spine/joint/arthritis, and others. Many programs are provided at no additional cost to the participant and provide access to one-on-one coaching, care reminders and referrals to supportive health information. Kaiser members can access a 24-hour nurse care line, email providers with questions, and take an online health-risk assessment at no cost. Beginning July 1, 2012, ODS members will also have access to a free online health-risk assessment and health information through WorldDoc.

The County's two dental plans provide enhanced coverage for preventive care including low- or no-cost preventive and diagnostic services. There is some low-level integration between medical and dental delivery systems to assist in disease management including a dental-specific care coordination program for maternity and diabetes available on the ODS plan.

4. CURRENT HEALTHY WORKSITE POLICY INITIATIVES

Recognizing that working adults spend over half of their waking hours at their places of employment, the Health Department's Community Wellness and Prevention Program has prioritized worksites as a key setting for its chronic disease prevention efforts.

Resources to operate the Program's healthy worksites initiatives consist of approximately 0.5 FTE with a budget of approximately $50,000. The Program secured competitive grant funds for this work through the State of Oregon as a part of its Healthy Communities Program. The focus of the work is to implement policy, systems, and environment change strategies that support healthy worksites. At the county in particular, the Healthy Worksites Coordinator is leading efforts to adopt and implement organizational policies that support a healthy work environment for staff, clients, and the public that Multnomah County serves. Two policies being developed and implemented in coordination with a number of county stakeholders include:

1. Tobacco Free Campus Policy – Tobacco remains the leading preventable cause of death in Multnomah County. To address this on-going public health threat, the Program worked with the Board of County Commissioners to adopt a comprehensive tobacco free campus policy in April. The policy, in effect July 1st 2012, ensures a tobacco free environment at all county owned buildings and properties. Given limited resources, the Healthy Worksites Coordinator worked closely with stakeholders such as county facilities, employee unions, and wellness & benefits to assure the policy is communicated to the public and employees.

2. Healthy Food And Beverage Guidelines – Over half of adults in Multnomah County are overweight or obese. The intent of the guidelines is to provide healthful options for food and beverages whenever food is being purchased, offered and served for meetings and events on behalf of Multnomah County. Community Wellness and Prevention Program staff are working with internal staff as well as caterers to develop resources and provide technical assistance that will support implementation of the

guidelines once adopted.

To support implementation of these policies, Community Wellness and Prevention Program staff are also working to launch its community media campaign, *It Starts Here!*, internally at county buildings in coordination with internal partners such as county facilities, wellness & benefits, and county commissioner offices. As the Program's resources allow, the Community Wellness & Prevention Program will be rolling out a Stairwell Campaign and other promotional resources to employees in the coming months.

As part of public health best practices, the Community Wellness and Prevention Program continues to track, identify, and bring forward promising worksites policies for the Board's consideration as a part of their efforts to healthy work environment for staff, clients, and the public that Multnomah County serves.

5. REVIEW OF EXISTING RESEARCH

Wellness programs can contribute to a reduction in employee absenteeism, lower health plan costs, enhanced employee retention, and increased employee morale and productivity. Program offerings can be tailored to address the specific health needs of our population as targeted by health plan statistics: weight reduction, stress management, women's health, and cardiovascular health.

In an effort to quantify the potential Return on Investment (ROI) for Wellness Program efforts at Multnomah County, an online search was conducted utilizing combinations of the following terms: return on investment, cost savings, meta-analysis, worksite wellness, and worksite health promotion. Dozens of articles were reviewed, and the themes and lessons learned are summarized below.

- Two meta-analysis reviews of existing research on economic impacts of worksite health promotion showed an average ROI of 3 to 1 for medical cost savings and reduced absenteeism.
- The most effective programs have high participation rates – close to 50% or higher.
- The most effective programs combine individual change strategies with a supportive cultural work environment.
- One study determined that shifting only 1% of employees from high risk to low risk status resulted in health care cost savings equal to the total cost of the organization's wellness program.
- It is difficult to demonstrate cost savings in shorter periods of time; savings typically take 2-3 years or longer to yield cost savings. The reasons for delayed demonstration of cost savings include the time it takes for employees to begin participating in the program, higher initial costs for program implementation, and higher costs to address medical issues that were previously untreated.
- Multi-component programs that treat a variety of risk factors at the same time, vs. programs that target a single condition or risk behavior, tend to yield greatest return on investment savings. Focusing on a variety of risk factors (such as poor nutrition, physical activity, or work/life balance) that can lead to multiple chronic conditions (overweight/obesity, depression, heart disease, etc.) show the greatest return because participation can include a broader number of people than a smaller number of people who have a particular condition or risk factor.

While the studies were intended to review research on ROI for worksite wellness interventions, many other research studies have estimated the cost of *not addressing* modifiable risk factors on the costs of operations for an organization. A recent article (Moriarty, J. P., *The Effects of Incremental Costs of Smoking and Obesity on Health Care Costs Among Adults*) has estimated the annual incremental increase in healthcare costs for smoking to be $1274 to $1401, and the incremental costs of morbid obesity II ranged from $5467 to $5530.

KEY RECOMMENDATIONS

The following recommendations are based on current research related to worksite wellness, the analysis of the available employee health data and an analysis of employee survey findings:

1. Prioritize key health care issues for interventions based on prevalence in employee population and known costs associated with risk factors for obesity, depression, and tobacco use.

2. Implement obesity prevention and weight management interventions, including programmatic, policy, and environmental supports.

3. Actively promote available resources for tobacco prevention and cessation, and support for implementation of tobacco free campus.

4. Increase support for and availability of preventive screenings and evidence-based self-management of stress and chronic diseases, prioritizing cancer, high blood pressure, diabetes, and depression.

5. Implement a coordinated infrastructure for on-going, sustained employee involvement in wellness activities, including programmatic, policy, and institutional supports with the goal of shifting the overall workplace to one that effectively promotes and maintains a "culture of wellness".

6. Implement a worksite wellness communications strategy that builds on the county's existing It Starts Here campaign.

NEXT STEPS

- Continue to collaborate cross-departmentally to implement previously identified wellness activities and policies (for example: integration of It Starts Here messaging at County worksites, tobacco free campus, etc.)

- Share findings and recommendations with appropriate leadership; seek input from County leadership to refine priorities.

- Develop strategic plan addressing recommendation areas.

- Seek consultant assistance to identify scaled options addressing the priority areas within analysis of ROI.

- Based on consultant/report, committee to recommend components of a comprehensive County wellness initiative for consideration by County leadership.

COMMITTEE MEMBERSHIP

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APPENDIX:
Return on Investment (ROI) for Worksite Wellness

A Google Scholar search was conducted utilizing combinations of the following terms: return on investment, cost savings, worksite wellness, and worksite health promotion. Research articles on file that have been collected by CWPP staff over the past several years were also reviewed when research questions dealt with return on investment of workplace health promotion interventions.

Summary of themes and lessons to draw from research on return on investment:

- It is difficult to demonstrate cost savings in shorter periods of time; savings typically take 2-3 years or longer to yield cost savings. The reasons for delayed demonstration of cost savings include the time it takes for employees to begin participating in the program, higher initial costs for program implementation, and higher costs to address medical issues that were previously untreated.
- Multi-component programs that treat a variety of risk factors at the same time, vs. programs that target a single condition or risk behavior, tend to yield greatest return on investment savings. Focusing on a variety of risk factors (such as poor nutrition, physical activity, or work/life balance) that can lead to multiple chronic conditions (overweight/obesity, depression, heart disease, etc.) show the greatest return because participation can include a broader number of people than a smaller number of people who have a particular condition or risk factor.
- The most effective programs have high participation rates – close to 50% or higher.
- The most effective programs combine individual change strategies with a supportive cultural work environment.
- One study determined that shifting only 1% of employees from high risk to low risk status resulted in health care cost savings equal to the total cost of the organization's wellness program.
- Two meta-analysis reviews of existing research on economic impacts of worksite health promotion showed an average ROI of 3 to 1 for medical cost savings and reduced absenteeism.

While the studies below were intended to review research on ROI for worksite wellness interventions, many other research studies have estimated the cost of not addressing modifiable risk factors on the costs of operations for an organization. A recent article (Moriarty, J. P., The Effects of Incremental Costs of Smoking and Obesity on Health Care Costs Among Adults) has estimated the annual incremental increase in healthcare costs for smoking to be $1274 to $1401, and the incremental costs of morbid obesity II ranged from $5467 to $5530.

Article/Source	Program Components/Intervention	Outcome Measures	Return on Investment
Financial impact of health promotion programs: A comprehensive review of the literature Aldana, Steven G. 2001 American Journal of Health Promotion http://www.ajhpcontents.org/doi/abs/10.4278/0890-1171-15.5.296	Analysis of 72 studies, to summarize the literature on the ability of health promotion programs to reduce employee-related health care expenditures and absenteeism.	1. Health care costs 2. Illness-related absenteeism	ROI averages 3 to 1 for medical cost savings, and an additional 3 to 1 for absenteeism reduction.

Financial impact of a comprehensive multisite workplace health promotion program Aldana, S. G., et. al. 2005 Preventive Medicine http://www.theculpritandthecure.com/images/science.pdf	11 different wellness programs were offered that were designed to encourage employees to engage in healthy lifestyles. The programs were offered to all employees, dependents, and retirees. Employees were dispersed over a large geographical area but were concentrated at the 90 schools or buildings within the district. Because of the decentralized nature of the employees, all wellness programs were promoted via the internet and email.	Healthcare costs and absenteeism.	Program participants averaged three fewer missed workdays than those who did not participate in any wellness programs. The decrease in absenteeism translated into a cost savings of $15.60 for every dollar spent on the program, a total of $3,041,290 in cost savings from lower absenteeism for a program participants during the 2 year study period. No differences in health care costs were observed in the 2 years of the study.
Using a Return-On-Investment Estimation Model to Evaluate Outcomes From an Obesity Management Worksite Health Promotion Program. Baker, K. M., et. al. 2008 American College of Occupational and Environmental Medicine http://ww.rmaoem.org/Pdf%20docs/Using%20a%20Return-On-Investment%20Model%20to%20Evaluate%20Outcomes.pdf	Single program intervention: Participants were eligible to receive up to four, 30-minute, telephone- based sessions with health coaches from *Healthyroads* coaching services (RDs, personal trainers, nurses, etc.) per month for 1 year. During these coaching sessions, participants set short-term health improvement goals related to physical activity, nutrition, stress management, and weight loss. The coaches also helped participants create a plan to achieve those goals.	Self-reported changes in 10 health risks: eating habits, physical activity, smoking status (former and current), total cholesterol, blood glucose, blood pressure, stress, depression, alcohol consumption, obese or overweight (derived from weight and BMI).	Over 1 year, 7 of 10 health risks decreased. Of total projected savings ($311,755), 59% were attributed to reduced health care expenditures ($184,582) and 41% resulted from productivity improvements ($127,173), a $1.17 to $1.00 ROI.
Workplace Wellness Programs Can Generate Savings Baicker, Katherine, David Cutler and Zirui Song 2010. Health Affairs, Vol. 29, No. 2 http://www.workplacewellness.com/images/Workplace_Wellness_Programs_can_generate_savings.pdf	Analysis of 32 peer-reviewed studies, to summarize the literature on the ability of health promotion programs to reduce employee-related health care expenditures and absenteeism.	1. Health care costs 2. Illness-related absenteeism	ROI averages $3.27 reduction in medical costs for every $1 spent on wellness, and $2.73 reduction in absenteeism for every $1 spent on wellness.

Health and the bottom line: What the evidence tells us Lynch WD 2001 Presented at the Art & Science of Health Promotion Conference, Washington, DC.	Analysis of comprehensive wellness programs.	1. Health care cost savings from shifting employees from high risk to low risk status.	Shifting only 1% of employees from high risk to low risk status resulted in savings equal to cost of wellness program.
Lowering Employee Health Care Costs through the Healthy Lifestyle Incentives Program. Merrill, R. M., et. al. 2011 Journal of Public Health Management Practice  Lowering Emp HC Costs through HILP.p	Multi-Component Design: Salt Lake County used the Healthy Lifestyle Incentive Program, which includes free annual screenings, tailored feedback on screening results, financial incentives for modifying and maintaining certain health behaviors, and health promotion education and activities. Participants can earn points according to participation, and can redeem points for cash.	Costs associated with prescription drugs and medical claims.	Over a 5 year study period, savings were calculated to be $3,568,837. Average number of employees for Salt Lake County are ~3900.
The Impact of the Highmark Employee Wellness Programs on 4-Year Healthcare Costs **Naydeck, B. L., et. al. 2008** American College of Occupational and Environmental Medicine http://astphnd.org/resource_files/185/185_resource_file1.pdf	Multi-component program: on-line sessions for nutrition, weight management, stress management, and smoking cessation; telephonic smoking cessation counseling; individual nutrition coaching with a registered dietician; and on-site classes in stress and weight management; company-wide health promotion campaigns such as a 10,000-Step Walking Program and a program to earn points toward a half-day vacation; fitness centers offered a variety of exercise classes and incentive-based competitions in addition to a full complement of fitness equipment.	Annual health care expenditures between participants and non participants.	Estimated health care expenses per person per year as $176 lower for participants. Inpatient expenses were lower by $182. Four-year savings of $1,335,524 compared with program expenses of $808,403 yielded an ROI of $1.65 for every dollar spent on the program.
Long-Term Impact of Johnson & Johnson's Health & Wellness Program on Health Care Utilization and Expenditures.	Multi-Component Design: Program focused on providing appropriate intervention services before, during, and after major health-related events: Health Risk Assessments, referral to	Emergency department visits, outpatient department and doctors' office visits, mental health care visits, and inpatient	Combined savings across all outcome categories totaled $224.66 per employee per year.

Ozminkowski, R.J., et. al. 2002 American College of Occupational and Environmental Medicine http://images1.wikia.nocookie.net/__cb20101201230423/healthco/images/3/31/Johnsonjohnson.pdf	high risk intervention programs based on HRA results, utilizing health benefit design for preventive services and screenings, emphasis on managed care or case management, safety/risk prevention and management of injuries, occupational health and ergonomics, and integration back into wellness programs after a health incident/injuries.	hospital days	
A Randomized, Controlled Trial of Financial Incentives for Smoking Cessation Volpp, K.G., et. al. American College of Occupational and Environmental Medicine http://www.nejm.org/doi/pdf/10.1056/NEJMsa0806819	Single program intervention: Testing financial incentives for enrollment in a smoking cessation program vs. an information only group in the enrollment and quit rates for tobacco users. All study participants received information about community-based smoking-cessation resources within 20 miles of their work site, as well as the standard health benefits provided by the firm, such as coverage of physician visits and bupropion or other drugs prescribed to promote cessation of tobacco use. The incentive group was given $100 for completion of a smoking-cessation program, $250 for cessation of smoking within 6 months after study enrollment, and $400 for abstinence for an additional 6 months after the initial cessation, as confirmed by a biochemical test.	Quit rates at 9-12, then 15-18 months after enrollment.	Quit rates at 9-12 months were 14.7% for the incentive group vs. 5.0% for the information only group. at 15 to 18 months the quit rates were 9.4% for the incentive group vs. 3.6% for the information only group. According to Moriarty, J.P., et al., the annual incremental mean costs of smoking by age group ranged from $1274 to $1401.