

Collaborative Employee Wellness: Living Healthy With Diabetes

Innovative approaches to managing an employee population with a high prevalence of type 2 diabetes mellitus can mitigate costs for employers by improving employees' health. This article describes such an approach at McCormick & Company, Inc., where participants had statistically significant improvements in weight, average plasma glucose concentration (also called *glycated hemoglobin* or *A1c*) and cholesterol. A simulation analysis applying the findings of the study population to Maryland employees with a baseline A1c of greater than 6.0% showed that participation in the program could improve glycemic control in these patients, reducing the A1c by 0.24% on average, with associated cost savings for the employer.

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An employee population with a high prevalence of type 2 diabetes mellitus can be financially problematic for employers. This article describes an innovative approach to managing employees with diabetes at McCormick & Company, Inc. The Living Healthy with Diabetes (LHWD) program is an internally designed and managed program in which the McCormick Health and Wellness Center offered employees with diabetes a combination of programs, including Weight Watchers® and the Maryland P³ Program®, and access to local fitness facilities and a certified diabetes educator.

An assessment after six months showed that participants had statistically significant improvements in weight, average plasma glucose concentration (also called *glycated hemoglobin* or *A1c*) and cholesterol. A simulation analysis applying the findings of the study population to Maryland employees with a baseline A1c of greater than 6.0% showed that participation

in the program could improve glycemic control in these patients, reducing the A1c by 0.24% on average, and generate associated cost savings for the employer.

Employer and Employee Characteristics

McCormick & Company is the global leader in the manufacturing, marketing and distribution of spices, seasonings and flavorings for the food industry and employs approximately 3,600 people nationwide. The main headquarters and production facilities are about 20 minutes north of Baltimore in Hunt Valley, Maryland. The company has about 2,400 employees in the Maryland area; 65% are male, 63% are hourly (37% salaried), and the average employee is aged 47. Approximately one-third (35%) of the employees live in the city of Baltimore, where there are known disparities in the availability of health care services and healthy, affordable food choices.¹

Corporate Wellness and the Wellness Program

McCormick is self-insured and has offered wellness programs and events to employees for many years. In 2010, the company decided to create a formal, organized wellness program that would serve all U.S. employees. This began with a strategic plan, creation of the Corporate Wellness Committee with diverse membership for all sites and levels, evaluation of current wellness vendors, and an in-depth look at the health risk status of employees.

In October 2011, the company moved its medical/occupational offices from the main production plant to a new, state-of-the-art medical facility and opened a comprehensive health and wellness center. Nurse practitioners, registered nurses, licensed practical nurses and a part-time physician staffed the facility. All clinical staff obtained certification as health coaches in order to provide support and to coach employees on different aspects of health and wellness.

The company conducted an extensive evaluation to identify areas in which program development was most needed. As a result, it developed various programs focusing on topics such as lifestyle/weight management, stress management and smoking cessation, as well as targeted programs for those with certain chronic conditions, with the overall goal of encouraging and assisting employees to take responsibility for their health while supporting the healthy goals and activities of their peers. The objectives were to achieve and maintain good health through healthy behavioral changes, choices and decisions both on and off the job.

A review of historical information during the initial evaluation indicated a

high prevalence of diabetes in the Maryland employee population. The company had previously offered employees free screenings and access to prevention tools but did not maintain metrics on these services. Evaluation of results of free hemoglobin A1c testing offered in early 2011 confirmed the initial suspicion that the employee population was at significant risk from diabetes. Consequently, the company identified a diabetes risk reduction program for those with prediabetes and diabetes as a key wellness objective.

LHWD and the P³ Program®

The LHWD program was created in early 2012 with an aim of reducing diabetes risk through education on diabetes prevention and disease management. The program included four primary components: nutritional education and support; fitness and activity; diabetes education; and multidisciplinary coaching from the McCormick Health and Wellness clinical team and outside partners, including Weight Watchers®, the Maryland P³ Program®, local fitness facilities and a certified diabetes educator. (See the sidebar.) All Maryland employees with a diagnosis of type 2 diabetes could participate in the LHWD program.

McCormick offered enrollment in the P³ Program as an additional voluntary benefit to LHWD program participants. The P³ Program is a patient-centered collaboration between patients and specially trained pharmacists. 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. Through these sessions, participants learn how to better manage their medications and chronic conditions as well as how to reduce associated health risks.

Employees received incentives to participate in the P³ Program. Incentives for those who maintained P³ Program compliance included waived copayments for diabetes medications and testing supplies and six months of Weight Watchers free of charge. Compliance was defined as attending at least 80% of Weight Watchers sessions, completion of lab work at three required time points, attendance at two or more educational sessions offered by the health and wellness program, and attendance at all scheduled sessions with the P³ pharmacist.

If an employee expressed interest in the P³ Program, representatives reviewed the risks and benefits of program participation with the employee and obtained written informed consent through an employee participation agreement. The agreement gave the McCormick clinical team permission to communicate with the practitioner responsible for managing the employee's diabetes. Practitioners received an informational letter explaining the program with notification of the employee's participation and copies of any lab results or other clinical parameters obtained during the program.

The P³ Pharmacist's Role

Each P³ Program participant worked one-on-one with an assigned pharmacist. Pharmacists met with their assigned participants an average of once a month for the first three months and then quarterly. All newly enrolled employees participated in a thorough, hourlong, initial visit during which the pharmacist reviewed the participant's medical and medication histories and assessed characteristics such as his or her adherence to current medication therapy, diet, smoking status and exercise regimen.

Pharmacists answered participants'

questions, worked collaboratively with them to set two short-term, measurable, self-management goals and discussed long-term goals. Pharmacists also obtained baseline clinical and behavioral characteristics, including A1c, blood pressure, weight, lipid panel, medication adherence and compliance with medical visit attendance. In addition, pharmacists conducted a comprehensive review of participants' medications to assess the appropriateness, safety and effectiveness of their baseline drug therapy and to identify potential medication-related problems.

Pharmacists continued to coach participants for the duration of the program. At each followup visit, pharmacists collected the same set of clinical data obtained at baseline and set two new, measurable goals with participants. Participants' self-management skills were assessed to ensure knowledge of blood glucose self-monitoring; oral medication and insulin self-administration; nutrition; stress management; and proper foot, skin, eye and oral care. The pharmacists asked participants to demonstrate their ability to perform these skills and provided individualized education to improve participants' self-management skills and comprehension.

At the conclusion of each visit, the pharmacist provided a written update to the practitioner responsible for managing the participant's diabetes. In addition, pharmacists documented care notes in a system that complied with the Health Insurance Portability and Accountability Act (HIPAA).

Measuring Outcomes

The program collected biometrics for all participants at baseline (0 months), at midpoint (three months) and at the end of the program (six months). Laboratory testing at each time point included an A1c, cholesterol profile (i.e., lipid panel) and fasting blood glucose (blood sugar). Weight, body mass index (BMI) and blood pressure were recorded, and participants completed a questionnaire at each time point.

The baseline questionnaire asked participants to define goals for the program, identify education they were interested in receiving, and answer questions regarding their diabetes diagnosis and treatment. The three- and six-month questionnaires contained questions regarding changes in treatment, the participant's sense of wellness, likes or dislikes about the program, and any personal or program-related concerns.

McCormick Health and Wellness clinical staff followed up regarding any concerns noted by the participant. P³ Program administration was responsible for conducting quality assur-

LHWD Program Benefits

Participants in the Living Healthy with Diabetes program received the following benefits free for six months:

- 26-week Weight Watchers membership
- Weight Watchers deluxe start-up kit
- Access to a certified diabetes educator through the Weight Watchers D2 program
- Access to the University of Maryland School of Pharmacy P³ Program
- Waived copays on diabetes medications and testing supplies in exchange for program compliance
- Free laboratory and other health screenings
- Fitness program reimbursement of up to 50% of the cost for approved programs
- Educational classes at the McCormick Health and Wellness Center
- Ongoing support and health coaching by the McCormick Health and Wellness Center clinical team.

ance reviews and analyses of outcomes using clinical, behavioral and medication adherence data on program participants.

Impact of the LHWD Program

From January through June 2012, 39 employees participated in the LHWD program. Over the course of the six-month study period, participants experienced significant weight loss, with an average of 11 pounds lost. The cohort also had significant improvements in BMI, A1c and high-density lipoprotein (HDL) at six months compared with the baseline.

The current American Diabetes Association practice guideline² defines glycemic control for patients with diabetes as the achievement of an A1c of less than 7.0% and a "normal" A1c as less than 6.5%. From baseline to six months, the proportion of patients with *controlled diabetes* (i.e., A1c less than 7.0%) increased from 35% to 53%, and the proportion of patients who achieved a *normal A1c* (i.e., less than 6.5%) increased from 18% to 38%. Both of these were statistically significant improvements.

A multivariate analysis of the association between baseline

demographic or clinical characteristics and the absolute mean change in A1c from baseline to six months revealed that baseline A1c, low-density lipoprotein (LDL) and total cholesterol were primary predictors of the change in A1c. The analysis found that a one-point increase in baseline A1c (e.g., from 7% to 8%) was associated with an average 0.3-point reduction in A1c at six months. Similarly, a 10mg/dL increase in LDL was associated with a 0.2-point reduction in A1c.

Predicting the Impact of a Larger Program

The company used aggregate data from McCormick's annual health screening (AHS) to define the population that would benefit most from an intervention like the LHWD program. The AHS was a voluntary screening available to employees in all U.S. locations. Beginning in 2012, the AHS began measuring A1c in addition to blood glucose, lipid panel, weight, BMI, waist circumference and blood pressure. AHS participants also completed a health assessment questionnaire.

In 2012, 1,824 employees from across the United States voluntarily participated in the AHS. Results showed that 47% had A1c values consistent with diabetes or prediabetes. Other associated health risks identified in these employees included 38% with an *overweight BMI* (between 25.0 and 29.9 kg/m²), 36% with an *obese or morbidly obese BMI* (30.0 kg/m² or greater) and 63% with blood pressure values above the normal range.

The Maryland employee population participating in the AHS (approximately 75% of the 1,824 participants) was not representative of the participants included in this LHWD pilot study, as the AHS partici-

pants were, on average, younger and had lower BMI, blood pressure and A1c values.

Those identified as most likely to benefit from an intervention similar to the LHWD program were defined as employees in two groups: those with a baseline A1c greater than 5.7% and those with a baseline A1c greater than 6.0%. Cohorts identified for this analysis included 447 employees for A1c greater than 5.7%, and 144 employees for A1c greater than 6.0%. Research suggests that participation in the LHWD program could produce an A1c reduction of 0.06% and 0.24% at six months for patients with baseline A1c greater than 5.7% and greater than 6.0%, respectively.

In considering the financial implications of this study, because each 1% drop in A1c results in \$980 savings per person per year, according to the Agency for Healthcare Research and Quality (AHRQ),³ LHWD (which includes Weight Watchers and the P³ Program) could result in cost savings of \$235 to \$794 per patient per year.

The AHRQ estimate is based on older data, and newer estimates would likely yield higher cost savings. Formal analyses that include the cost of running the program, along with waived copayments, would provide better estimates of the costs and cost-effectiveness of implementing a program such as McCormick's LHWD. However, a separately published analysis of the impact of the Maryland P³ Program on health care costs noted a return on investment of approximately \$2.50 for each \$1 spent (which included the waived medication copayments and the cost of the Maryland P³ Program).⁴

Employer Wellness Programs

There is growing evidence that employer wellness programs can sig-

nificantly improve the health of participating employees in a cost-effective manner.⁵ The pilot data from the McCormick LHWD program is one example where cost savings, based on improvement in A1c, are expected. Additional analyses, published elsewhere, of one component of the LHWD program, the Maryland P³ Program, demonstrate the cost-effectiveness (i.e., economic benefits outweigh costs) of specially trained pharmacists providing care to patients with diabetes.

This article presents just one example of a successful wellness program. A review article of 20 employer wellness programs summarizes the positive financial outcomes of the programs.⁶ Wellness programs have been found to reduce health care costs and improve worker productivity. After examining these wellness programs, the authors of the review offer a list of characteristics associated with these successful programs.

Wellness programs adapt to the changing needs of employees. The corporate culture and policies encourage wellness for the main purpose of improving employees' lives and make it easy to participate in the programs. For example, employers can allow employees time off from work to attend a wellness program. Both the employees and leadership are motivated to improve their health, and technology is used to facilitate health risk assessments and wellness education.

The wellness programs at McCormick share several of these characteristics. The culture is supportive of wellness, as are such policies as being able to take time off from work to attend any wellness program. In addition, the McCormick Health and Wellness Center uses technology, such as the point-of-

care A1c test, so employees can obtain their A1c result within minutes.

Conclusion

Type 2 diabetes mellitus, particularly when it remains uncontrolled, is associated with potential complications such as chronic kidney disease requiring dialysis. Such complications not only are financially problematic to an employer but also may limit productivity by restricting employees' availability.

An evaluation of McCormick's innovative LHWD program showed that participants had statistically significant improvements in weight, A1c and HDL at the conclusion of the program. A simulation analysis applying the findings of the LHWD program participants to Maryland employees with a baseline A1c greater than 6.0% showed that participation in the LHWD program could improve glycemic control in these patients and provide associated cost savings for the employer. 

Endnotes

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International Society of Certified Employee Benefit Specialists

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