The Shell Disability Management Program: A Five-Year Evaluation of the Impact on Absenteeism and Return-on-Investment

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Objective: To evaluate the impact of the Shell Disability Management Program (DMP) on U.S. manufacturing employee absenteeism. **Methods:** We estimated absence episodes and days lost per employee from 2004 to 2008 compared to pre-program values in 2002, and productivity gains from transitional duty (TD). **Results:** Between 2002 and 2008, absence episodes/100 employees decreased from 37.4 to 25.7 among hourly workers but increased from 9.7 to 13.1 among staff employees. Days lost per employee decreased from 7.4 to 5.2 for hourly employees and were virtually unchanged for staff employees. TD resulted in 6042 days saved in 2006 and 11,438 days in 2008, with direct cost savings of more than $4.1 million from 2006 to 2008. **Conclusions:** The Shell DMP emphasizes absence tracking, timely return-to-work, and facilitation of TD. Absenteeism decreased significantly after DMP implementation, particularly among hourly employees, with an estimated 2.4:1 return-on-investment.

Shell Oil Company implemented an in-house disability management program (DMP) beginning in late 2002, following steady increases in absenteeism since the mid-1990s, particularly among refinery workers. The impetus for the program was the startling upward trend in absence episodes and days lost, heightened after the acquisition of several oil refining facilities in the late 1990s. Internal company reports showed a 54% increase in days of absence per employee between 1996 and 2002 at the refineries (6.1 vs 9.4, respectively).

An earlier report by Skisak et al[1] described the implementation of the DMP at Shell, one of several occupational health programs owned and administered by Shell Health. In brief, the program was brought in-house after a 2-year period in which disability management services were contracted to a third-party vendor. The program began with employees in the oil products business (including Shell's nine U.S. refineries), and in later years expanded to chemical and other manufacturing employees, trading operations, and research and administrative groups. The earlier article reported a 10% decrease in absence days between 2002 and 2003 for employees in businesses using the DMP, whereas businesses not using the program saw an 8% increase. The DMP also demonstrated a high level of customer satisfaction, and a significant 4:1 return-on-investment (ROI) during its first year.[1]

The DMP has matured since 2003, expanding in terms of staff and covered employees, and honing program components such as transitional duty (TD) and collaboration with human resources and benefits staff. Initially, two full-time case managers, along with 20% of time from site nurses and an administrative staff member managed an employee population of approximately 13,000. In 2008, four case managers and 3 administrative staff, along with 5% to 10% of site nurse time and a physician-supervisor, managed approximately 17,500 employees. TD was largely seen as infeasible in 2002, particularly in a plant setting, whereas now, the program consistently facilitates employees returning to work on either limited hours or other modified duty restrictions sooner than their full-duty return would allow.

This report will describe absenteeism trends at Shell after the full implementation of the DMP in 2003. It will expand on the earlier report, which presented results of the first year of the program (ie, 2003 vs 2002), by describing patterns through 2008 and using absence data from 2002 as a baseline. The specific objectives of this study are

- To describe trends in absence episodes and lost workdays at Shell's eight major manufacturing facilities between 2004 and 2008.
- To estimate direct cost savings and ROI from the DMP.
- To describe productivity gains and estimated cost savings associated with the TD program.

MATERIALS AND METHODS

The goal of the Shell DMP is to enhance the ability of an employee experiencing a non-occupational illness or injury to safely return to transitional or full duty at the earliest possible time. Employees are required to record absences in the company timekeeping system in a timely manner, and these absences are tracked by DMP staff. Once an absence reaches a duration of 4 workdays, the employee must provide a physician's certification and diagnosis for the absence, and a case manager is assigned. The case manager communicates with and coordinates efforts of the parties involved (eg, the employee, employee's physician, company physicians, employee's supervisor, human resources, benefits administration, etc) to ensure that the employee receives proper medical care, access to professional health care advice and company benefits for which they are eligible, and explores the appropriateness of TD. When the employee is considered ready to return to work, a fitness-for-duty evaluation is performed, particularly for employees who have missed 80 hours or more, are returning with restrictions, have had surgery, or are on medication, which might impact their ability to work in a safety-sensitive position.

This study included all employees working at one of Shell's eight U.S. petrochemical manufacturing sites any time during the period 2004–2008. Employees from any of several sites divested during the study period were not included in the baseline values. The sites are distributed across Texas ($n = 2$), Louisiana ($n = 3$), California ($n = 1$), Washington ($n = 1$), and Alabama ($n = 1$), and range in size from 175 to 1900 active employees. Data sources for this study included electronic timekeeping records for absence days, the Shell Health Surveillance System for employee study eligibility and work location, and Medgate (Version 4.0, Medgate Inc., Toronto, Canada) for case management documentation, including cause-of-absence.

The analysis included all absence days occurring between January 1, 2004, and December 31, 2008, coded as non-occupational disability in the timekeeping system, with absence days in 2002 used for pre-program comparisons. Absences coded as occupational or covered under the Family and Medical Leave Act were not included. At the manufacturing sites, absences are generally

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DOI: 10.1097/JOM.0b013e3181dbc8c2

recorded by timekeepers, not by the employee. Although all absence days are entered into the timekeeping system, the focus of the DMP is on absences lasting between 4 and 365 days. Absences of more than a calendar year are generally covered under long-term disability benefits, whereas those less than 4 days do not require medical documentation. In this report, most results will pertain to absences lasting 4 to 365 days, and exceptions to this will be stated in the results.

Outcome measures for this study were 1) absence episodes, 2) workdays lost, 3) average length of absence, and 4) estimated direct cost of absence. Absences were counted only in the year in which they ended, regardless of whether the absence spanned more than one calendar year. Direct costs were based on an average hourly wage of $32 (for both staff and hourly employees), and calculated by multiplying this hourly rate by the number of absence hours for the calendar year. For these calculations only, hours of absence included those occurring in the calendar year, regardless of whether the absence began or ended in that year. Diagnostic categories were assigned based on the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD9-CM) grouping indicated by the ICD code for the underlying cause of the absence.[2] This diagnosis code was based on physician report provided on a medical certification form required for all absences lasting 4 or more days.

TD results were based on case manager documentation in Medgate, and available only for absences occurring during 2006–2008. For each eligible case, information captured included restrictions recommended by the employee's physician (eg, limited work hours or lift/carry weight restrictions), effective date of the restrictions, whether the site agreed to accommodate the restrictions, and the date the employee either returned to full duty, or (for a small number of cases) returned back to short-term disability. Calendar days saved were calculated as the difference between the date the employee returned to work on restrictions, and the date he or she returned to full duty. Direct cost savings were calculated by dividing the number of calendar days saved by 365, then multiplying this by an average annual salary of $60,000.

All analyses were performed with SAS v. 8.[3] Average workdays lost was calculated as days of absence (limited to absences of 4 days to 1 year's duration, and counted in the calendar year during which the absence ended) divided by person-years worked during the calendar year, and average absence episodes were calculated similarly, with the number of absences per year in the numerator. Mean duration of absence by ICD diagnostic category (DC) was calculated based on a single underlying cause per absence, again limited to absences between 4 and 365 days duration, and counted toward the absence end year, either 2002 or 2008. Total days saved per DC were calculated by multiplying the number of absence episodes in 2008 from that DC by the difference in the mean length of absence between 2002 and 2008.

The χ^2 statistic was used to test for a differences in proportions (ie, age group, gender, ethnicity, staff vs hourly) between the 2002 and 2008 employee populations, and two-sample t test was used to test for differences in mean years of service. A log-linear regression model was used to determine the magnitude and direction of change in average number of absences per employee between 2002 and 2008. Differences in median absence days per employee were tested by dividing days lost into 4 categories (ie, 0 to 3, 4 to 10, 11 to 20, 21+ days) and comparing the frequency distribution between 2002 and 2008 using a χ^2 test. This method assumes that if the distribution of days lost were the same for the 2 years, then the median days of absence would be the same also.[4]

A new timekeeping system was put in place company-wide in 2004, replacing several smaller systems used across the manufacturing sites before that which were the source of our baseline data from 2002. One concern was that days of absence were not captured directly in some of the systems in 2002 but rather calculated based on work hours and work shift. When work shift was not available, a 9-hour workday was assumed. This may have overestimated days lost since hourly manufacturing employees typically work 10 or 12 hour shifts. To validate the consistency of data between the old and new systems, we also performed sensitivity analyses, which compared the proportion of absence workdays versus calendar days for hourly workers in 2002 and 2006–2008 and calculated adjusted days lost in 2002 based on the later proportion.

TABLE 1. Description of Study Population, Shell Oil Company Manufacturing Employees, 2002 and 2008

	2002, *n* (%)	2008, *n* (%)	*P**
Number of employees	6989	7081	
% Male	6034 (86.3)	6177 (87.2)	0.1159
% Hourly	4066 (58.2)	4339 (61.3)	0.0002
Age category (yr)			<0.0001
16–24	264 (3.8)	274 (3.9)	
25–34	794 (11.4)	967 (13.7)	
35–44	1744 (25.0)	1711 (24.2)	
45–54	3008 (43.1)	2439 (34.5)	
≥55	1171 (16.8)	1689 (23.9)	
Ethnicity			0.471
Black	924 (13.2)	834 (13.7)	
Hispanic	461 (6.6)	411 (6.7)	
White	5441 (77.9)	4707 (77.0)	
Other	158 (2.3)	160 (2.6)	
Average yr of service	17.6	15.8	<0.0001

*P-value of test for differences between 2002 and 2008.

RESULTS

As shown in Table 1, the majority of employees at the manufacturing sites were white males, and more than half were 45 or older. Approximately 60% were hourly workers, and on average, had worked for the company almost 17 years. Compared to the manufacturing population in 2002, the population in 2008 had a somewhat higher percentage of hourly workers, and were slightly older, but with fewer years of service.

Absence Measures

Between 2002 and 2008, the average number of absences per year decreased 31% among hourly employees, from 37.4 to 25.7 per 100 employees, but increased at a similar rate among staff employees, from 9.7 to 13.1 per 100 employees (Fig. 1). Log-linear regression analyses confirmed significant changes in slope for hourly (slope = −0.06, 95% confidence interval [CI] = −0.08 to −0.03) and staff workers (slope = 0.04, 95% CI = 0.02 to 0.07). As shown in Fig. 2, illness days per year decreased 30% among hourly employees from 7.4 to 5.2 days per employee ($\chi^2 = 64.01$, $P < 0.01$), but increased slightly for staff employees (2.6 vs 2.7 days per employee, $\chi^2 = 4.79$, $P = 0.19$). Overall, absence episodes decreased from 25.8 to 20.7 per hundred employees (slope = −0.04, 95% CI = −0.05 to −0.02), and days of absence decreased from 5.4 to 4.2 days per employee ($\chi^2 = 26.74$, $P < 0.01$). The decreasing pattern overall and for hourly employees was not linear, however. Overall absence days decreased from 5.4 to 4.2 days per employee in the first 2 years after program implementation ($P < 0.01$), but began steadily increasing between 2004 and 2006

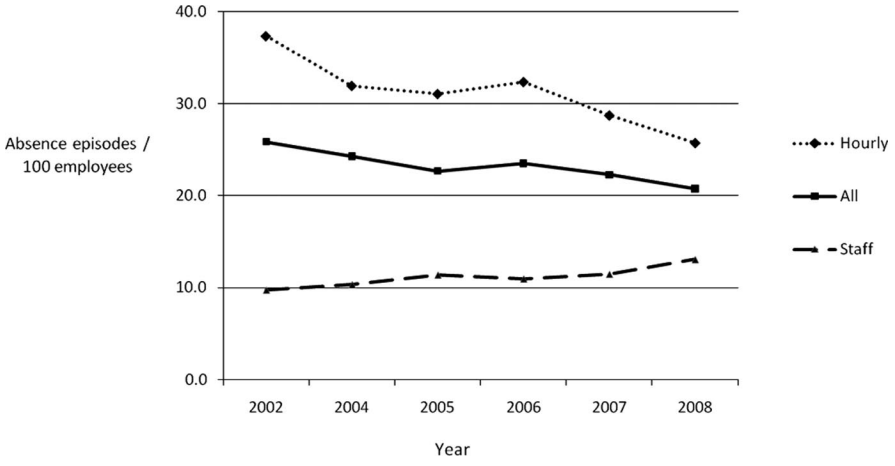

FIGURE 1. Average absence episodes per 100 employees, including all non-occupational absences of 4 to 365 days duration ending in the specified year, 2002–2008.

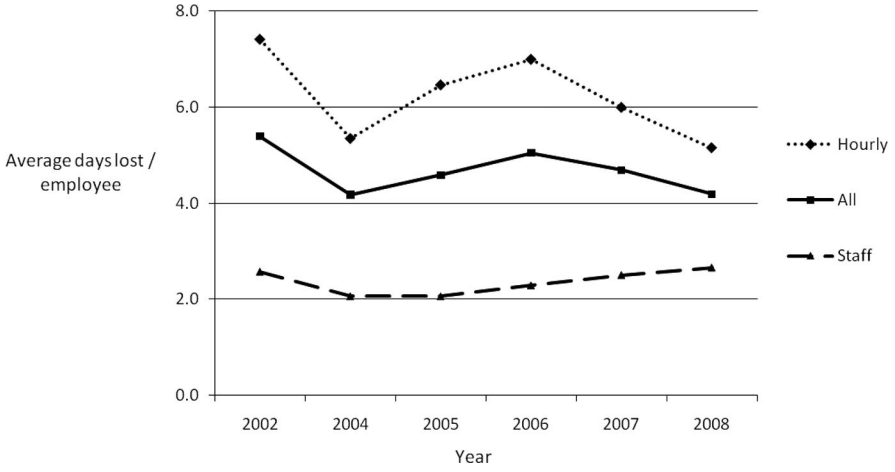

FIGURE 2. Average work days lost per employee, including all non-occupational absences of 4 to 365 days duration ending in the specified year, 2002–2008.

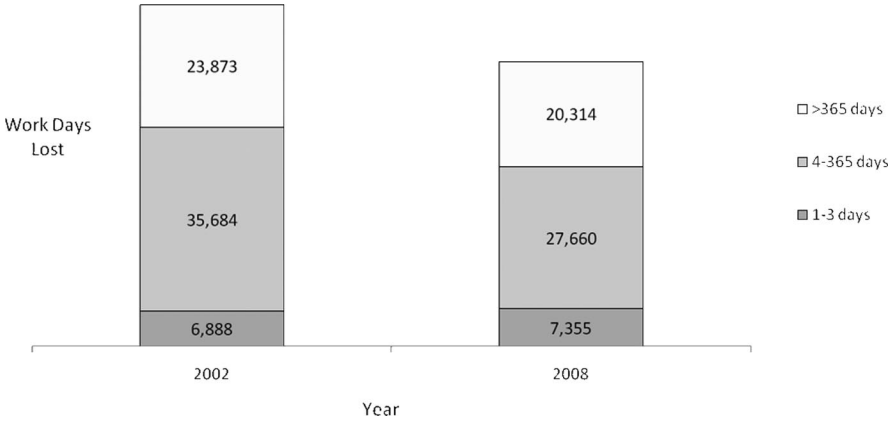

FIGURE 3. Total work days lost by length of absence for absences ending in 2002 and 2008, adjusted to 2002 population size.

(from 4.2 to 5.0 days per employee, $P < 0.01$). Average days of absence began declining again in 2006, decreasing 16% overall between 2006 and 2008 (from 5.0 to 4.2 days per employee, $P < 0.01$) and driven entirely by reductions among hourly workers.

To confirm that days of absence were not simply shifting from a duration of 4 to 365 days to a longer duration, we also examined the distribution of total absence days by length of absence (Fig. 3). After adjusting for changes in the population size, total absence days decreased 16.7%, from 66,445 to 55,329 days per year between 2002 and 2008. This included decreases of 22.5% and 14.9% for absences between 4 and 365 days, and greater than 1 year, respectively, and a 6.8% increase in days lost because of absences between 1 and 3 days.

Sensitivity analysis was performed on the calculation of absence days to account for differences in how days lost were derived (ie, based on hours lost) from some timekeeping data for hourly employees in 2002. In 2002, absence days represented 67.7% of calendar days for hourly employees, whereas in 2006–2008, this proportion averaged 58.6%. To adjust for this difference, total 2002 calendar days of absence were multiplied by 58.6%, resulting in 46,778 workdays of absence for hourly

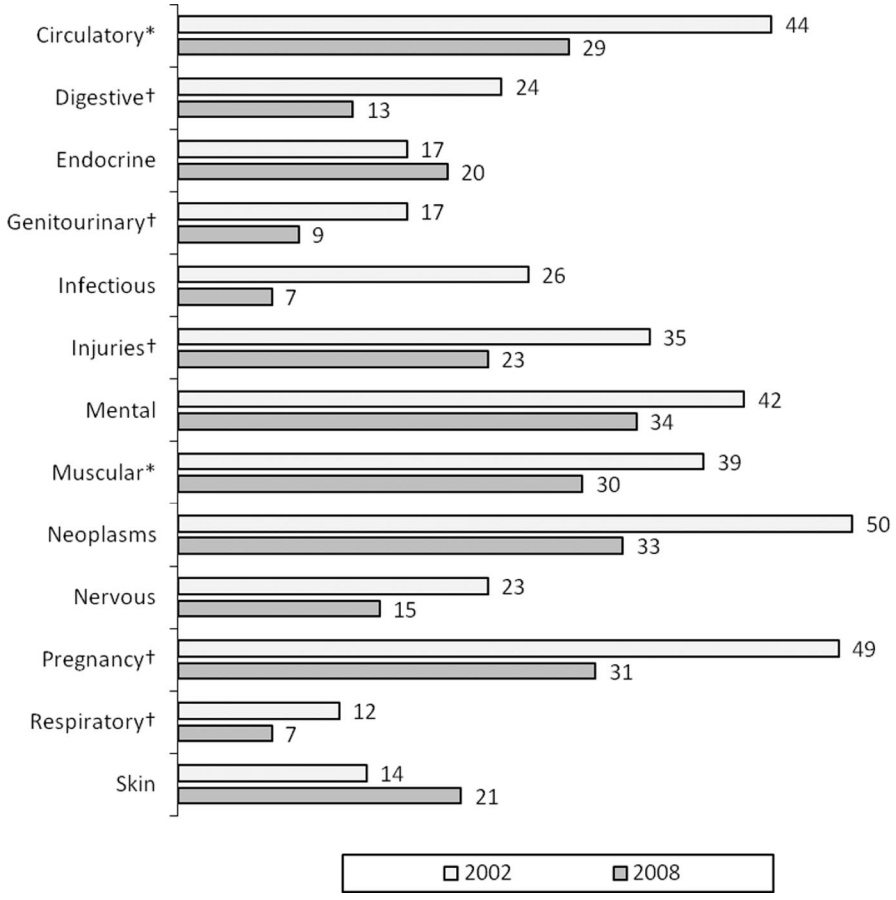

FIGURE 4. Mean duration of absence (in work days) by DC, 2002 vs. 2008. Includes all absences between 4 and 365 days, ending in either 2002 or 2008. *$P < 0.05$.†$P < 0.01$.

employees in 2002. This represents 11.6 workdays lost per employee in 2002 versus 10.7 days lost in 2008, a decrease of 7.8% overall. When limited to absences between 4 and 365 days, the adjusted value for 2002 was 6.1 days per employee, representing a 14.8% decrease in workdays lost per employee between 2002 and 2008, compared to a 30% decrease in the unadjusted value presented in Fig. 2. The adjusted value represents a conservative estimate, and the true value likely lies between the adjusted and unadjusted estimates.

Mean duration of absence declined between 2002 and 2008 in nearly every DC (Fig. 4). Absences due to circulatory system disorders lasted an average of 44 days in 2002, but only 29 days in 2008, a decrease of 34%. Other diagnostic categories with statistically significant decreases included digestive system (46%), genitourinary system (47%), injuries (34%), musculoskeletal system (23%), pregnancy (37%), and respiratory system (42%). Nevertheless, the relative impact of these diagnostic categories on overall absenteeism depends also on the number of absences occurring in each. As shown in Fig. 5, musculoskeletal disorders were responsible for the largest number of absence episodes in this population during 2008 ($n = 292$), so while the mean change was only 9 days per absence (Fig. 4), the total days saved were estimated to be 2628 (ie, 9×292). Similarly, decreasing the mean length of absence for injuries (167 absences in 2008) resulted in an estimated savings of 2004 workdays in 2008. Decreases in the length of pregnancy absences ($n = 32$ in 2008) from approximately 10 weeks in 2002 to 6 weeks in 2008 saved an estimated 576 days in 2008.

Transitional Duty

Use of TD increased each year between 2006 and 2008 (Fig. 6). In 2006, employees returned to work on TD an average of 41 days earlier than their full duty would have allowed, resulting in a total of 6042 days saved. By 2008, this average had increased to 54 days per case, with a total of 11,438 days saved overall. This represents a direct cost savings of over $4.1 million during the 3-year period, with $1.8 million saved in 2008 alone. Figure 6 also demonstrates the inverse association between the increased use of TD and direct costs of absenteeism. Between 2006 and 2008, days saved due to TD increased 89%, whereas direct costs of nonoccupational absences at Shell manufacturing sites decreased nearly 24%.

Return-on-Investment

Total direct expenditures of the DMP between 2004 and 2008 were estimated to be nearly $4,108,000, including salaries and benefits of a program manager, case managers and support staff, software, office supplies, and overhead expenses (Table 2). There were 34,731 days saved over this 5-year period when compared to 2002 absence levels, ranging from 4417 days saved in 2006 to 9073 days saved in 2004. Assuming an average daily wage of $260 for this population (with a 4% increase each year), the total savings from this reduction in lost workdays totaled nearly $9,740,000 over the 5 years. When program expenditures were compared to cost savings, the overall return on investment (direct costs only) of the DMP was estimated to be 2.4:1.

DISCUSSION

Our results show that absenteeism among manufacturing employees decreased significantly after implementation of the Shell DMP in 2002–2003, particularly among hourly workers, and demonstrate the feasibility and benefit of using TD in this population. It

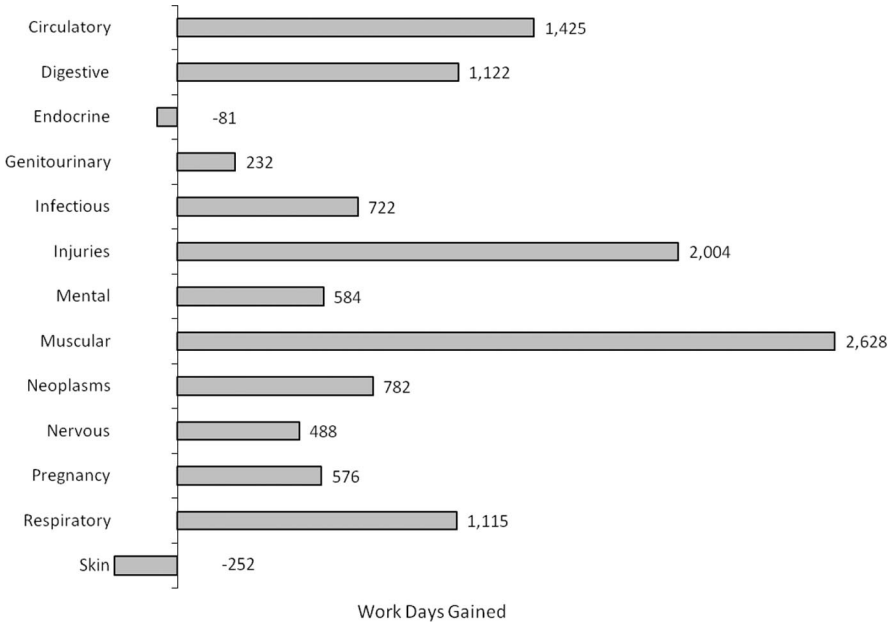

FIGURE 5. Projected work days gained in 2008, based on change in mean duration of absence between 2002 and 2008 for each DC, calculated as the product of the mean change in length of absence for each category and the number of absences per DC.

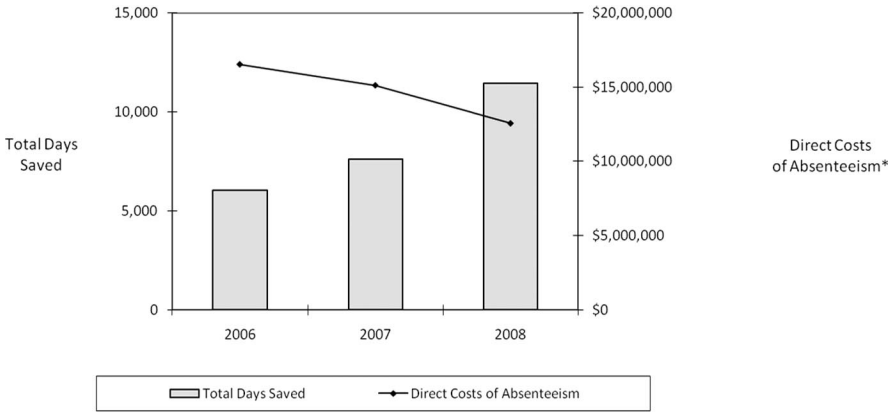

FIGURE 6. Calendar days saved from TD, and decreases in direct absenteeism costs at Company manufacturing sites, 2006 through 2008. *Based on average monthly salary of $5,000 ($32 average hourly salary).

TABLE 2. ROI of the Disability Management Program, 2004–2008

Year	Program Costs*	Daily Wage	Days Saved†	Cost Savings	ROI
2004	$633,476	$260	9,073	$2,358,980	3.7
2005	$774,296	$270	7,289	$1,968,030	2.5
2006	$800,926	$281	4,417	$1,241,177	1.5
2007	$930,682	$292	5,928	$1,730,976	1.9
2008	$968,616	$304	8,024	$2,439,296	2.5
Total	$4,107,996		34,731	$9,738,459	2.4

*Estimates for each year include IT software and support, data analysis support, supplies, and overhead. In addition, the following staffing levels were used in the yearly salary and benefit cost calculations:

2004: corporate case managers (CM)–2 full-time equivalents (FTE), site CM–1.6 FTE's; program manager–0.4 FTE, administrative support–1 FTE.

2005: corporate CM–3 FTE's, site CM–1.2 FTE's; program manager–0.4 FTE, administrative support–1 FTE.

2006: corporate CM–3.5 FTE's, site CM–0.4 FTE's; physician manager–0.35 FTE, administrative support–1 FTE.

2007: corporate CM–3.5 FTE's, site CM–0.4 FTE's; physician manager–0.35 FTE, administrative support–2.2 FTE's.

2008: corporate CM–3.5 FTE's, site CM–0.4 FTE's; physician manager–0.35 FTE, administrative support–2.2 FTE's.

†Restricted to absences 4 to 365 days, compared with 2002 and adjusted to the 2002 population size.

is also clear that a sustained reduction in absenteeism requires not only skilled case management but also support at all levels of management, and follow-through on pay and benefit policies as they relate to non-occupational disability.

The objectives of the DMP are to ensure that employees receive proper and timely medical care, and to provide a uniform approach for managing non-occupational disability absence benefits. Specifics of the DMP have been described in an earlier report,[1]

but in brief, professional in-house disability case managers educate employees about their medical issues, assist them in navigating through medical care and insurance benefits, and monitor suitable recovery plans. This approach seeks to connect the employee, supervisor, treatment providers, human resources, benefits, and company health services. Employees are required to provide medical certification for their absence from their primary physician on the fourth missed workday, at which time, the DMP begins managing the absence, including investigating the feasibility of TD. The overall goal is to assist the employee to return to normal life activities as soon as possible. McGlynn et al[5] recently estimated that Americans receive little more than half the recommended medical care indicated by their health conditions. This demonstrates the critical role that case managers play in monitoring the employee's treatment plan, and his or her adherence to and progress against it.

Limiting the length of an absence to only medically necessary days is beneficial to the employer, but results in social, psychological, and financial benefits to the employee as well.[6,7] Studies have shown that employees who never miss time from work during their recovery have better outcomes than those who do, and that those who miss 6 months of work have only a 50% chance of ever returning.[6] Generous employer-provided disability benefits facilitate proper care and recovery but may also provide disincentives for the employee to return to work as soon as medically possible. Harris et al[8] reported that employees receiving workers' compensation benefits took longer to recover and experienced poorer clinical outcomes than those with the same medical conditions but no disability benefits.

Lost workdays and absence episodes dropped significantly for hourly employees during the first 6 years of Shell's DMP. Considering only absences lasting between 4 days and a calendar year (the focus of the DMP), days of absence decreased 30% and the number of absences per employee declined 31%. These numbers likely underestimate the impact of the program however, because effective management of cases would be expected to result in fewer absences eventually becoming long-term disability cases after 1 year. When these longer absences were considered as well, lost workdays at the manufacturing sites declined 19.4% overall.

The number of absences among staff employees increased 35% during this same period, from 0.097 to 0.131 absences per employee per year, whereas workdays lost per employee increased roughly 4%. This may represent a true increase in absence episodes, or more complete absence recording for staff employees. Rules regarding sick leave pay for hourly workers are dependent on the number of absences and days missed per absence due to labor union agreements, but the same guidelines do not apply to staff. We suspect that this has historically resulted in under-recording of absences among staff employees, particularly for shorter absences, and our data supports this (ie, 24% of absences in 2002 lasted 4 to 5 days vs 31% in 2008; 42% lasted 4 to 10 days in 2002 vs 51% in 2008). Clearly, more attention is being paid now than in past years to recording and tracking absences for all employees, including staff, and the increase in absence episodes without a similar increase in absence days suggests that either the DMP is succeeding in returning these employees to work sooner, or that shorter absences were more consistently and completely recorded in 2008 than in 2002.

Absenteeism declined significantly in the first year of the program, but then increased between 2004 and 2006. Reasons for this are unclear but may reflect initial employee support of the in-house program after the end of an unpopular program administered by an external vendor. This pattern may also reflect poor enforcement of pay and benefits policies (eg, requiring compliance with absence reporting timelines so that case management can begin as early in the absence as possible, requiring medical certification for the absence to continue disability pay benefits), which lagged behind the emphasis placed on skilled case management in the early years of the program. This began changing in 2006, when upper-level management support led to the inclusion of absenteeism measures in performance metrics for managers and human resources staff at the manufacturing sites. This resulted in greater support for the use of TD at the sites, increased monitoring and tracking of absences, and improved consistency in applying company policies.

TD allows employees on disability to return to work on limited hours or other modified duty restrictions sooner than their full-duty return would allow. It provides an employee time to continue recovering while also experiencing the financial, emotional, and social benefits of work, and is considered an essential and effective component of any disability prevention program.[6,9] Many studies have demonstrated the effectiveness of "Stay at Work" and "Return to Work" models, which seek to minimize medically unnecessary absence days, but which also cast the issue of presenteeism in a different light.[10–13] Bernacki et al[10] found that lost workdays decreased 55% after the implementation of an early return to work program. A recent study of patients with chronic musculoskeletal disorders showed that those who continued working at least part-time during their course of treatment were more likely to return to work after treatment, and to return to full-duty.[12] They were also more likely to be working a year after completing treatment, and at job demand levels similar to those before their injury. In our manufacturing setting, TD was largely seen as infeasible in 2002, whereas now, failure to accommodate an employee on TD must be justified to site management. Cases are considered eligible for TD on the judgment of the employee's physician, and site management determines whether the TD restrictions can be accommodated. Restrictions are generally intended to last 6 weeks or less, at which time the employee is anticipated to return to full duty. In a small number of cases, employees returned from TD to short-term disability, either for further treatment, or because the return to work with restrictions was not successful. Without the availability of TD, the employee would have remained off work the entire time; thus gains in productivity due to TD are measured by the difference in calendar days between the date the employee returned to work on TD, and the date he or she was returned either to full duty or disability.

The average length of absence decreased for nearly every DC between 2002 and 2008. Under the DMP, case managers use Official Disability Guidelines[14] to set targets for an employee's return to work, which has resulted in more objective and consistent expectations for an employee's length of absence. Our results show that even small changes in median duration of absence can lead to significant days gained if the DC is a frequent reason for absence.

The ROI of direct costs associated with the Shell DMP between 2004 and 2008 was $2.40 for every dollar spent. An earlier evaluation of the DMP reported an ROI of 4:1 for the first year of the program (ie, 2003 vs 2002).[1] This is consistent with our estimate of 3.7 for 2004 versus 2002, although the ROI then declined as both program costs and absence levels began to increase. ROI figures improved again in 2007 and 2008, and while they have not reached the level seen in the first few years of the program, still provide significant evidence of the program's effectiveness.

Several strengths and limitations of this study should be noted. Absenteeism data were obtained from company payroll records and included all absences regardless of duration, resulting in objective recording of absence episodes and missed workdays which were virtually complete and not subject to recall or other issues with self-report. Cause-of-absence information was provided by the employee's physician. This study was based on a large cohort including all hourly and staff workers at eight manufacturing

sites spread across the United States, and the finding that a program of this type can reduce absenteeism among these employees (who in our experience are at higher risk for absence) is likely generalizable to other similar populations.

The same payroll system was used between 2004 and 2008 but was different from that used in 2002. However, we were able to quantify the potential difference in days lost per employee using information derived from calendar days of absence, and provide a range of likely estimates. In addition, absence recording for staff employees may have become more complete with time, making it somewhat difficult to interpret trends for these employees. The measure of productivity and associated costs in this study was limited to days of absence and did not incorporate estimates of lost productivity from presenteeism or other indirect costs associated with employee absenteeism.

We counted absences that spanned two calendar years only in the year in which they ended. This approach was chosen to allow for five full years of follow-up, and also because calculation of average absence duration by DC required the use of the full length of absence (as opposed to an approach which would parse days lost into the respective calendar years). Although this could potentially introduce information bias, we have confirmed that approximately 85% of absences began and ended in the same calendar year, and the results would have been essentially unchanged if we had instead counted the absences in the year they started.

Employer-borne costs associated with lost productivity outweigh costs of medical treatment by a factor of 2.3 to 1.[15] Disability management is recognized as a key component of occupational health initiatives geared at supporting a healthy workforce.[6,7,16] We continue looking at ways to build on the success of the DMP, including expanding the reach of the TD program at our manufacturing sites. Mental health case management is being more closely integrated with medical case management, and we are investigating the possibility of applying the program to work-related and Family and Medical Leave Act absences as well. In addition, further analysis is underway to try to understand variations in absenteeism across sites, with the goal of early identification of employees at high risk of extended absence.

CONCLUSION

Absenteeism at our manufacturing sites decreased significantly after implementation of the Shell DMP. The greatest effect was seen in hourly workers who averaged 30% fewer absences and missed workdays in 2008 compared to 2002. We have also found that TD is possible and effective in this population, yielding direct cost savings of $4.1 million over a 3-year period. A successful DMP requires sustained efforts of the employee, health services, human resources, and site management for proper case management, enforcement of pay and benefits policies, and accommodation of TD. Our experience demonstrates the importance of each of these components to sustain positive trends in disability management and provides evidence that a program incorporating these important stakeholders, as well as receptive health care providers, can significantly and cost-effectively reduce absenteeism among manufacturing employees.

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