

A Compilation of Case Studies

Case Study 1-Chevron Texaco

Results of ChevronTexaco Intervention Initiative:

- 22,000 employees were involved
- 44% of participants lowered their risk level
- 49% of those who originally had constant or frequent discomfort now have discomfort infrequently or never
- Average cost/claim for those who participated were at least 40% less than non-participants
- In two years the number of RSI cases have decreased by 71%

As a result of their initiative, ChevronTexaco made the unqualified statement that Repetitive Stress Initiatives will lead to decreased discomfort and less severe and costly claims. Their total workers compensation cost went from \$27.7 million to \$14.3 million in two years. The data from the ChevronTexaco Initiative represents 30% of the company population and costs were not adjusted for national increase in workers compensation costs.

In addition, the following employee observations were made:

- Employees who would recommend the initiative to a colleague 94%
- Employees who say they will work more comfortably 92%

Case Study 2 – San Jose University Research Study

In a recent research study conducted by the San Jose University, standard and/or alternative designed computer keyboards were tested to determine if they increase or decrease exposure to ergonomic risk factors by users. Two popular alternative keyboard designs the Goldtouch and Natural Ergonomic Keyboard (NEK) in conjunction with the standard QWERTY keyboard design were tested to determine which one provided the greatest benefit to the user. The benefits were defined as having minimal or no exposure to ergonomic risk factors such as awkward postures (ulnar deviation and wrist extension greater than 5-degrees), static postures, and contact stress. In addition, typing speed and error was also assessed to determine learning curves associated with new motor learning of an alternate keyboard design.

Result of Study:

- GoldTouch users have less error in the number of words typed per minute compared with the standard QWERTY keyboard that was their original keyboard.
- The NEK group showed an increase with incorrect keying technique/planting of the wrists with keying tasks. Note: It is also worthy to note that four of the 30 participants for the NEK group dropped out due to physical discomfort experienced while using the keyboard.
- The Goldtouch keyboard group also improved in keying technique by five participants. The Study Group believed that this result was achieved by both ergonomic education and the design of the keyboard that promotes bilateral shoulder retraction with keying tasks.

Case Study 3 - Blue Cross Blue Shield Study

Impact Analysis:

In a further study conducted by Blue Cross Blue Shield on an overall evaluation of keyboard preferences the following factors were assessed relating to a standard keyboard versus the Goldtouch keyboard:

Factors Accessed:

- keying effort and rhythm
- fatigue - hands, wrist, forearms, shoulders
- posture and comfort
- overall use

In every factor measured, the Goldtouch keyboard rated higher for an average of 8 out of 10 compared to the standard keyboard of 6 out of 10. In addition, 77% of the participant's preferred the Goldtouch keyboard, 67% would buy the Goldtouch keyboard, and 67% would prefer their employer to offer the Goldtouch keyboard.

Case Study 4 – Texaco Belgium

At Texaco Belgium, a company with 220 employees and part of the Chevron Texaco Corporation, a project was set up to replace the classic qwerty/azerty keyboards with 'ergonomic' keyboards. The project was a part of a large program on preventing repetitive stress injuries. As part of this initiative one of the actions undertaken was to implement computer hardware compliant with strict ergonomic demands. This hardware was selected after a risk assessment and a study of the different hardware available. The keyboard chosen after this selection process was the 'Goldtouch' keyboard.

The overriding contribution of this study was that the results were able to isolate and measure productivity improvements directly associated with an ergonomic keyboard selection. The table below quantifies the cost of the implementation and attributes the benefits not only to avoidance of cost but the effect on employee productivity.

	2002	2003	2004	2005
Keyboards & Installation	(13,156)			
Training & Learning		(6,294)	(5,714)	(6,242)
Reduced Absenteeism		14,085	20,412	28,198
Productivity Increases		4,178	6,009	8,225
Reduced Health Costs		1,675	3,489	4,829
Net Cash Flow	(13,156)	12,403	24,196	35,010
Present Value of Cash Flows @10%	(13,156)	13,644	24,196	26,304
Net Present Value	45,548			
Profitability Index	4.5			

Return on Investment:

The return on investment was based on available industry key factors and predominately the findings from the ChevronTexaco intervention initiative. Where the factors were not directly available, the factors were extrapolated from the ChevronTexaco presentation. The ROI results presented here are completely consistent with the findings presented from the ChevronTexaco intervention initiative.

	<i>Key Factors</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>
Number of employees		30,000	30,000	30,000
Number of RSI Claims	2.8%	840	840	840
Average cost of Claim	\$11.3k	\$11.3k	\$11,3k	\$11,3k
(A) Direct Workers Compensation Cost		\$9.5m	\$9.5m	\$9.5m
Average employee wage per year and day	\$50k	\$192.31	\$201.92	\$201.92
Days Absent	30 days	30 days	30 days	30 days
(B) Cost of Days Loss to Absenteeism		\$4.9m	\$5.1m	\$5.1m
(C) Indirect Costs		\$13.4m	\$12.8m	\$12.8m
(A) + (B) + (C) Total Cost without intervention		\$27.7m	\$27.3m	\$27.4m
Total Cost with intervention		\$19.0m	\$16.4	\$14.4
Savings from Intervention		\$8.1m	\$10.9m	\$13.0m
Investment in intervention:				
Equipment (\$150/emp)	\$4.5m			
Training (2hrs at \$48.08)	\$1.5m	\$1.5m	\$1.7m	\$1.9
Other (50% additional training cost)	\$.7m	\$.8m	\$.8m	\$.9m
Total Investment	\$6.7m	\$2.3m	\$2.5m	\$2.8
Net Cost Reduction	\$6.7m	(\$5.9)m	(\$8.4)m	(\$10.1)m
Present Value at 10%	\$6.7m	(\$5.3)m	(\$7.0)m	(\$7.6)m
Net Present Value (NPV)	\$13.2m			

Note:

The model ignored potential additional cost savings by assuming that workers compensation claims do not increase from an increase cost of medical procedures despite what is currently happening in the costs of health care. In addition, Line (B) and Line (C) are the indirect cost of RSI which added together for this analysis are 2X the direct workers compensation cost Line (A), 2X of direct cost is at the low end of the prevalent stated range of 2X to 5X.