

Loss Reduction Through Utilization of an Enhanced Claims Management Program

Liberty Mutual / VerNova Program



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Liberty Mutual

D. McTavish, Regional Claims Mgr. Can., V.P. Claims Liberty Insurance Co. of Canada,
 J. Mclean, Claims Manager, N. Neumann, Team Manager, E. Pleasance, Rehab Coordinator.

VerNova

K. Cairns, H.B.Sc.(Kin) , B.A.Ruiz, PHD., DABFE, C. Olney, P.T., ABDA, Clinical Director, R.J. Gagne, E.E.T.

ABSTRACT

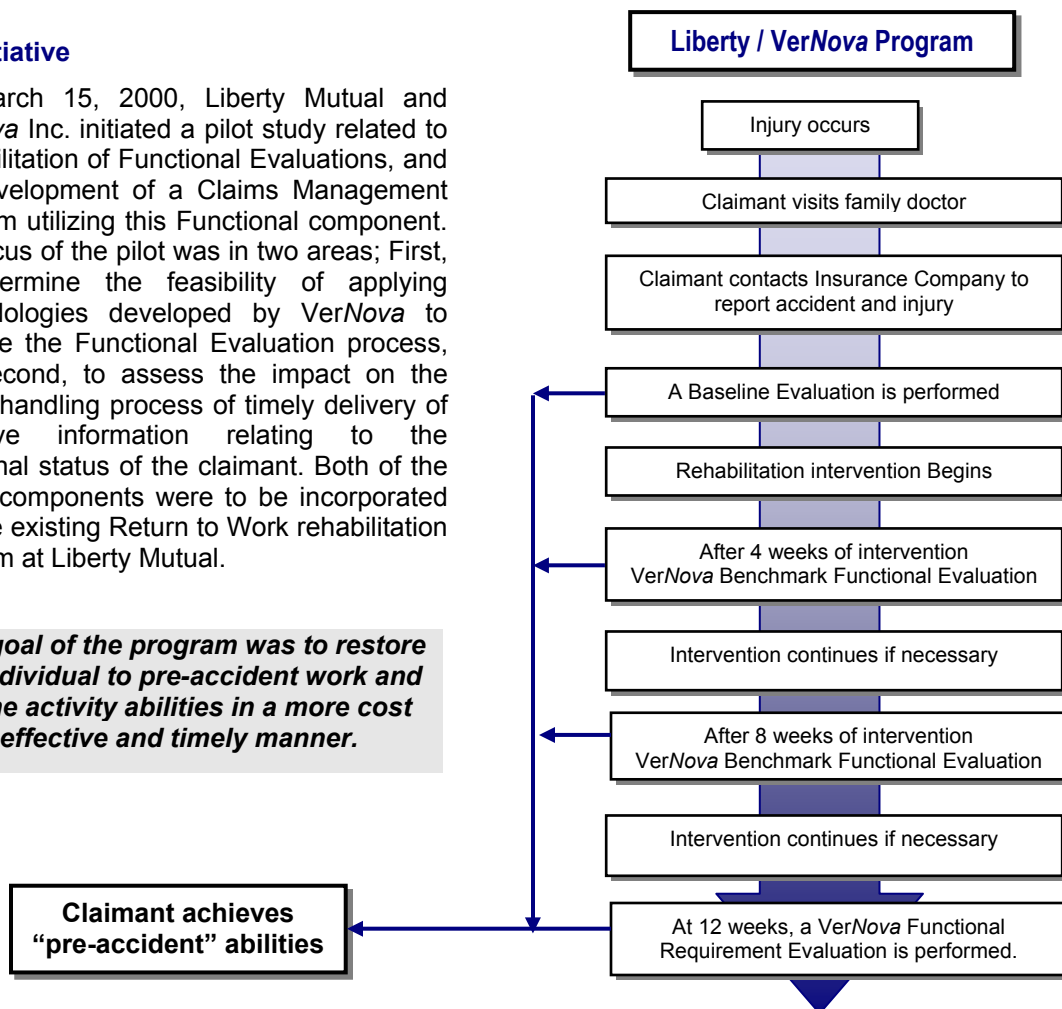
In Canada, for the province of Ontario, claims and adjustment expenses for Accident Benefits during the last five years exceeded five billion dollars. There were 75,300 claims reported in the year 2000, with an average cost per claim of \$16,395.00*. These facts precipitated an intervention program co-developed by Liberty Mutual Canada and VerNova, Inc. The directive of the pilot was to enhance the claims management program with the goal of improving the efficiency of the return to pre-accident process and thus reducing the average time and cost per claim. The pilot was specifically focused on claimants with soft tissue / musculoskeletal injuries. The program consisted of a structured, objective evaluation program using VerNova's ARCON Functional Testing System and incorporating it into Liberty Mutual's existing Return to Work Rehab Program. The total time, during which the claimant's file was open, was reduced by 80 days as compared to the comparison group. The most significant overall measured result relates to the claimant's expedited return to pre-accident status. This directly yielded a subsequent reduction in the average cost per claim of \$4387.93 as compared to the Non-ARCON files. The continued saving potential was further justified through an independent Actuary / Statistician which documented a 95% probability rate of saving / claim at an average of \$4,388.00. The authors discuss and provide detailed information regarding the methodologies and statistical analysis. (*1996-2000 -Ontario Insurance Commission: Province of Ontario – Private Passenger Automobile Statistics)

Keywords: Functional Evaluation, Claims Adjuster, Baseline Evaluation, Benchmark Evaluation, Functional Requirement Evaluation, Pre-accident Abilities, Activities of Daily Living (ADL), Disability Assessment Center (DAC), Rehabilitation Service Vendor (RSV).

The Program Initiative

On March 15, 2000, Liberty Mutual and VerNova Inc. initiated a pilot study related to the facilitation of Functional Evaluations, and the development of a Claims Management Program utilizing this Functional component. The focus of the pilot was in two areas; First, to determine the feasibility of applying methodologies developed by VerNova to facilitate the Functional Evaluation process, and second, to assess the impact on the claims-handling process of timely delivery of objective information relating to the functional status of the claimant. Both of the above components were to be incorporated into the existing Return to Work rehabilitation program at Liberty Mutual.

The goal of the program was to restore an individual to pre-accident work and home activity abilities in a more cost effective and timely manner.



Program Overview

The Liberty/VerNova Program was designed to provide an individual with all reasonable and necessary measures required to reduce or eliminate the effects of any disability or impairment resulting from injuries sustained in an accident. The goal of the program was to restore an individual to pre-accident work and home activity abilities as soon as possible. To achieve that goal, an assessment method was designed that was based on objective measurement. This process, utilizing ARCON Functional Evaluation technology, guides the evaluator to answer referral questions, provides information for appropriate treatment, and ultimately facilitates return to pre-accident activities.

The process began with a referral for an initial ADL / Baseline Functional Evaluation. VerNova confirmed receipt of the referral and simultaneously created a referral record in a proprietary on-line tracking/scheduling system. The creation of this record included a direct contact with the rehabilitation service vendor, who would complete the VerNova program. The VerNova scheduling system initiated an automatic follow-up to confirm that the appointment had been scheduled. Once scheduled, VerNova sent written confirmation of the appointment date to Liberty Mutual. In addition, Claims Adjusters could access the VerNova "On-Trak" on-line tracking system for web-enabled status reports. The automated tracking system allowed VerNova to supervise the rehabilitation service vendor's adherence to process measures such as timeliness of appointment, timeliness of report, and compliance with all referral requirements.

To assist individual Claims Adjusters in understanding the report and verifying that all referral questions were addressed, an executive summary page was included with the results of each referral. This summary page was developed by VerNova and revised in meetings with both the vendors and the Liberty Mutual pilot team to achieve a format that was easy to complete while containing all essential information for adjusters. The rehabilitation service vendor's attended a "how to complete the executive summary page" training session on the key information required in the summary, while the pilot team (adjusters) attended a "how to read the executive summary page" training session regards the interpretation of the

results. This tool for quality control and feedback was found to increase the reliability of the process by catching errors and omissions before the Functional Evaluation report was finalized.

Participation in the Liberty/VerNova program was voluntary on the part of the claimant. To ensure that each claimant understood the goals of the program, Liberty had developed a letter of introduction to the VerNova Program. The rehabilitation service vendor took two copies of this letter to the initial appointment. The claimant signed a copy, to certify that they understood the letter, and it was included with the initial report.

The Functional Evaluation report, once completed by the rehabilitation service vendor, was electronically transferred to VerNova for a quality over-read. The rehabilitation provider and VerNova worked jointly to ensure the report was clear, the recommendations were based on objective evidence and all of the referral questions were addressed. The quality over-read process detected errors and omissions before the report became a finalized clinical document. The over-read was sensitive to the language of the report as regards to issues of causality, apportionment and the individual's reliability of effort.

Claims Adjuster Decision Chart:

An important issue within the insurance community was restricted access to qualified medical staff to periodically review each claim. In practice it is most often a non-medical individual trained in Claims Adjuster Practices who had the responsibility to monitor and direct the claim.

The Liberty / VerNova program provided timely and objective information to the Claims Adjuster, enabling a non-medically trained individual to assess the functional progress of the claimant. The functional status and historical information was clearly presented to both parties. As noted in the following graph, the Claims Adjuster was provided with decision-making information at specific times within the life cycle of the claim.

1. The **Baseline Evaluation** provided confirmation of the treatment appropriateness, impairment identity, activities of daily living status, current functional status, and provides the claims manager with an initial assessment of the claimant's

consistency of effort. Based on the information in the report the Claims Manager had two possible actions:

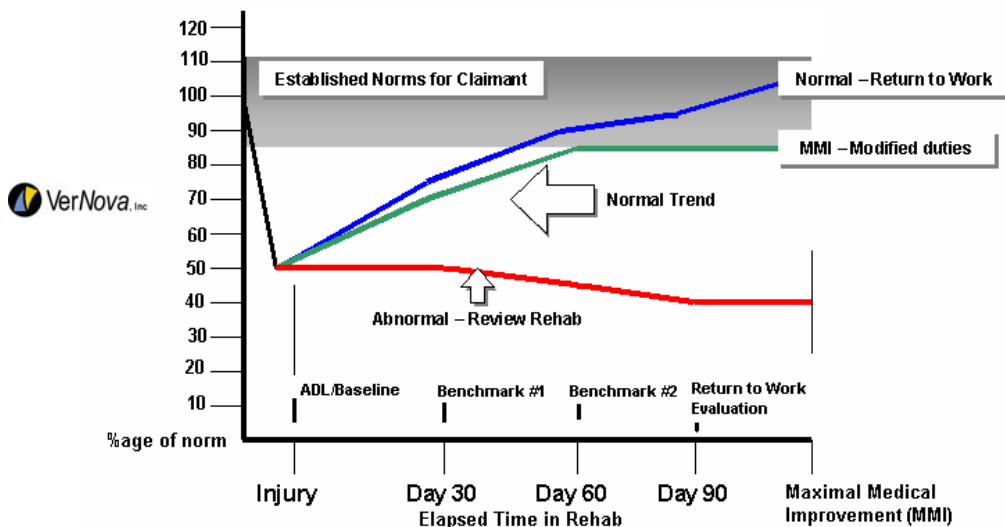
- a. If the report indicated that the claimant had no functional barriers to returning to work or returning to activities of daily living then either a return to these pre-accident activities plan was implemented or a Functional Requirement Evaluation was performed to facilitate the development of a safe return to pre-accident activities plan.
- b. If the report indicated that the claimant had functional limitations then a course of intervention was initiated.

2. The information collected in the **Benchmark evaluation** was specific to the injured area and was compared to the baseline information collected above. Based on the information in the report the claims manager had four possible actions:

- a. If the report indicated improvement then continue with current intervention.
- b. If the report displayed degradation then contact the provider and review.
- c. If the report displayed stagnant gain then contact the rehabilitation service vendor and review alternate treatment program initiative.
- d. If the report indicated that the claimant had no functional barriers to returning to work or returning to activities of daily living then either a return to these pre-accident activities plan was implemented or a

Functional Requirement Evaluation was performed to facilitate the development of a safe return to pre-accident activities plan.

3. The information collected in the **"second" Benchmark evaluation** was specific to the injured area and was compared to the baseline and previous benchmark information collected above.
 - a. If the report displayed improvement then continue current intervention.
 - b. If there are no functional barriers to RTW or return to ADL then perform Functional Requirement Evaluation for safe re-entry to duties.
 - c. If the report displays degradation then contact the rehabilitation service vendor and review.
 - d. If the report indicated that the claimant had no functional barriers to returning to work or returning to activities of daily living then either a return to these pre-accident activities plan was implemented or a Functional Requirement Evaluation was performed to facilitate the development of a safe return to pre-accident activities plan.
4. If the individual was ready to be placed back into the field of work then a **Functional Requirement Evaluation** in combination with the treating health practitioner's release to RTW / ANL and/or Independent Examinations on record would define the safe Functional Return to Work abilities of the individual.



Technology and Vendors:

Rehabilitation service vendors were selected for this pilot program based on the following criteria: a) prior experience with Liberty Mutual in-home/return to work program, b) certification as an ARCON ShareNET provider, and c) geographic location to provide full Ontario coverage. VerNova established the ARCON ShareNET program to credential assessment facilities that meet certain minimum standards in quality of functional testing. As compared to a standard clinic with ARCON technology, ShareNET facilities have an enhanced version of the ARCON System, have completed the Virginia Commonwealth University (VCU) training program in Functional Evaluation, and make exclusive use of VerNova testing protocols. In addition to the VCU certification, specific Liberty Mutual pilot program training was also provided.

Once the rehabilitation service vendor's custom protocols and technology were in place, the program was mandated through an established team of claims managers from within the Accident Benefits group at

Liberty Mutual. An advanced information tracking medium was required to ensure that the claims manager was informed at all times regarding the functional status of the claimant. VerNova developed a secure, proprietary web-based tracking system, which was used throughout the pilot program. Liberty Mutual administrators had immediate access to the status of all claimants at the various stages of treatment and evaluation, while each claims manager had similar access to track the progress of his or her claimants. The goal was to decrease time required for decision-making. Executive summary files, report files and claim status were updated electronically by rehabilitation providers and by the VerNova quality over-read team such that managers had online access to information without delays associated with mailed reports. Similarly, Claims Adjusters could initiate the referral process by submitting an electronic form to the tracking system. Custom management reports on VerNova and Vendor performance criteria

Conclusions:

A comparative analysis was completed between the results of the claimants that participated in the Liberty / VerNova program and a concurrent group of claimants that did not participate in the Liberty / VerNova pilot program. Personnel from both Liberty Mutual and VerNova participated and supervised the data collection for the pilot.

Conclusions of the program initiative were based on the following criteria:

- Review of claims to include both **VerNova** and **Non-VerNova files**
- Files reviewed related to soft-tissue injuries, with at least \$500.00 of VerNova or Non-VerNova intervention.

The following criteria were used to ensure consistency and reliability of test data:

- The same providers were used for both VerNova and Non-VerNova files.
- All files occurred within the same calendar year.
- Claimants were all located in the same geographic area to ensure similar premium base.
- Injuries noted on file were similar in nature.

- Liberty personnel were involved in selection of files to ensure appropriate comparisons.

Files were divided into two categories:

1. **VerNova files closed:** files referred to the program that at least one ARCON evaluation was completed and the files, according to Liberty Mutual records, were closed at the time of the data review.
2. **Non-VerNova files closed:** files referred to providers involved in the pilot program by adjusters not involved in the pilot program and the files, according to Liberty Mutual records, were closed at the time of the data review.

Closed Files – Average cost per file:

Category	VerNova files	Non-VerNova files
Medical Reserve	\$ 8,264.35	\$ 9,992.04
Other Reserve	\$ 5,054.84	\$ 7,301.68
Wage Reserve	\$ 3,222.17	\$ 3,950.65
Total Reserve:	\$ 16,541.37	\$ 21,244.37
Medical Loss	\$ 5,520.62	\$ 7,706.60
Other Loss	\$ 2,428.78	\$ 3,733.98
Wage Loss	\$ 1,748.32	\$ 2,645.07
Intervention (Vendor + VerNova)	\$ 2,385.04	\$ 2,213.03
Total Loss:	\$ 9,697.71	\$ 14,085.64

Documented direct savings per claim of \$4,387.93.

Payment Descriptions:

Medical Payments: Included assistive devices, case management, Chiropractic, counseling, dental, home modification, hospital, medical devices, nursing, Occupational Therapy, Physiotherapy, prescriptions, psychological, rehab, speech therapy, training, transportation, vehicle modification, wheelchair and other expenses.

Other Payments: Included attendant care, clothing/dressing damages, death/funeral, education/tuition expense, examinations, housekeeping/maintenance, long term care, visitor expense and other general expenses

Wage Payments: Included Income Replacement Benefits (IRB) / Non-Earner Benefits (NEB) and caregiver expenses.

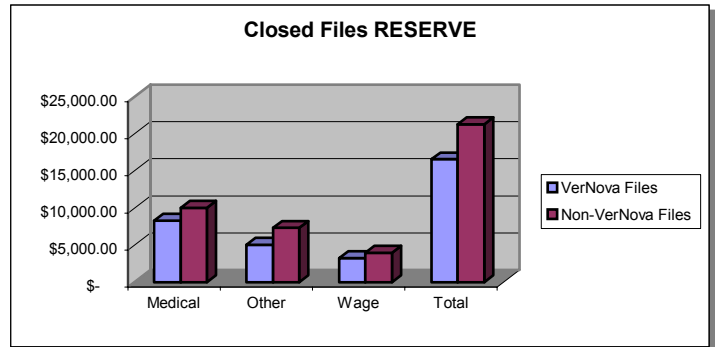
Reserve:

Note: The cost saving demonstrated did not include the costs associated with the servicing of the debt associated with the reserve i.e. interest charges.

Total Savings demonstrated through the VerNova Program per claimant:

Medical = \$ 1,726.69, Wage = \$728.00, Other = \$2,247.00.

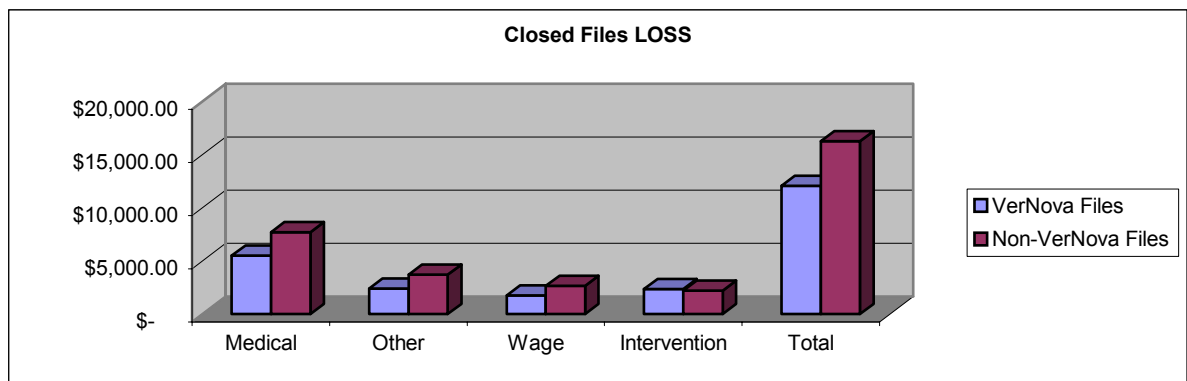
**Reserve Number was based on the final adjustment prior to closure on the file.*



Claims Loss Paid:

Total Savings demonstrated through the VerNova Program per claimant:

Medical = \$2,186.00, Wage = \$897.00, Other = \$1,305.00.



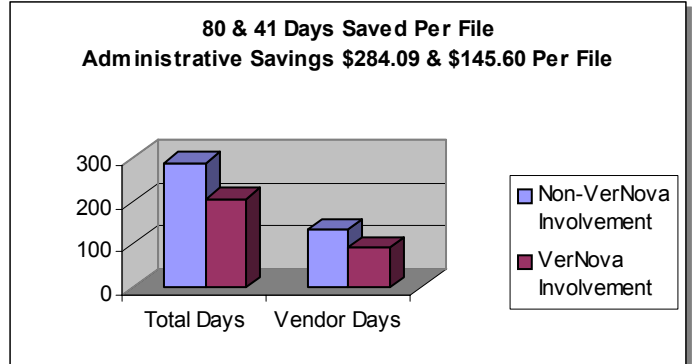
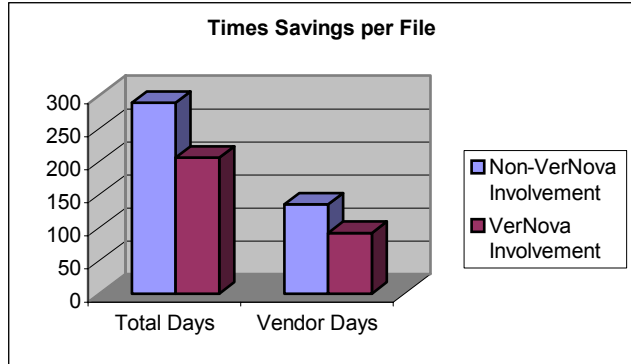
Time Saving per File:

The VerNova Program had a significant impact on the total days as well as the Vendor intervention days on file. The total days may include time spent under review by the Claims Adjuster after the vendor has already provided the final assessment of the claimant.

Total Savings demonstrated through the Liberty/VerNova Program per claimant are;

Total time per file: = **80** days

Vendor Time Involvement: = **41**days



Assuming that an average Claims Adjuster spends approximately 3 hours of administration time per file per month, and

an average salary of \$75,000/annum, the savings of personal time would be equal to;

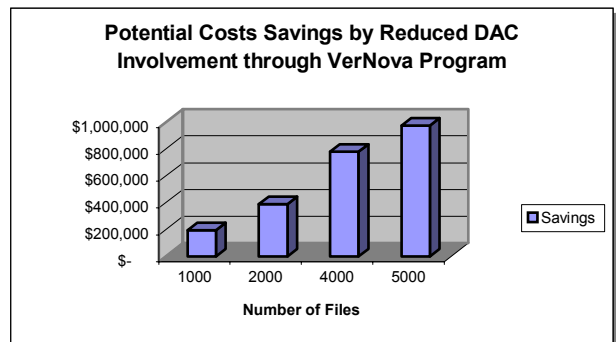
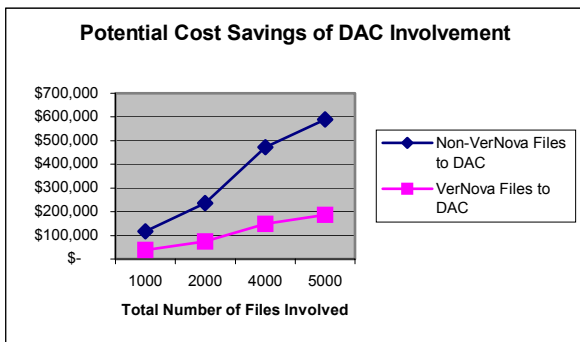
Administrative Savings:			
	<u>Total Days</u>	<u>Vendor Days</u>	
Non-VerNova Involvement	285	133	
VerNova Involvement	205	92	
Total Days Saved	80	41	
Months Saved (based on closed files)	2.7month	1.37 Month	
Hours spent per file/month	3 hours	3 hours	
Administrative Savings per file	\$ 284.09	\$	145.60

“DAC” Assessment Comparison:

A review of VerNova files verses Non-VerNova files that went to Disability Assessment Centers (DAC) also revealed a significant savings. Within the total body of claims evaluated, claimants in the VerNova program had a total of 4 cases sent to a DAC with a total incurred cost of \$5,145.00 for an average of \$1,286.25 per DAC. The Non-VerNova files resulted in a total of 9

cases sent to a DAC with a total incurred cost of \$24,882.20 for an average of \$2,764.69 per DAC.

The results suggested that increased objective information relating to the file, combined with more timely decisions made by Claims Managers, resulted in reduced conflict, less legal involvement and overall cost.



**It is understood that the above notes regards DAC Savings were based on a limited number of claims files reviewed.*

Independent Evaluation of the Data Collection and Process:

An independent review was performed by C. Panteleo, MMath, Actuary and Statistician, to verify the completeness of the data and to confirm the collection process was accurate and reproducible.

To examine whether or not statistically significant differences exist between the two programs the average claim size was scrutinized using an analysis of variance technique or ANOVA. More specifically, if we label the average claim size under the pilot program as μ_A and the existing program as μ_{NA} the comparison is whether or not $\mu_A = \mu_{NA}$. The ANOVA analysis provides a statistic commonly referred to as a *p-value* to assist in the evaluation. In conjunction with the *p-value* we need to set a critical

threshold, α . This critical value is related to the confidence we have in the selection process. A common α is 0.05, which can be thought of as having a 95% degree of confidence in the selection of a hypothesis. The testing can be formalized as

$$\begin{aligned} H_0: \mu_A &= \mu_{NA} \\ H_1: \mu_A &\neq \mu_{NA} \end{aligned}$$

and the criteria to reject the hypothesis H_0 in favor of H_1 becomes *p-value* < α .

The tables below summarize the ANOVA analysis:

The first table summarizes the actual data provided. The Non-ARCON file contained 57 claims totaling \$802,882.00 whereas the ARCON file contained 82 claims totaling \$795,213.00. The average claim size for the respective groups was \$14,086.00 and

\$9,698.00. Notice also that the claim variance, a measure of the dispersion of the individual claim amounts around the average value, for the Non-ARCON group is significantly higher than the variance for the ARCON group.

Summary Statistics:

Groups	Count	Sum	Average	Variance
Non ARCON	57	802,882	14,086	89,624,994
ARCON	82	795,213	9,698	49,942,622

ANOVA

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F (means)	P-value	F (critical)
Between Groups	647,429,815	1	647,429,815	9.7853531	0.002149	3.91023
Within Groups	9,064,352,002	137	66,163,153			
Total	9,711,781,817	138				

Thus, given that $0.002149 < 0.05$ there is strong evidence to reject H_0 in favour of H_1 or in other words, statistically significant differences exist between the average claims sizes under the respective programs. Furthermore, using the information in the table above one can estimate that the average claim size resulting under the ARCON program will be on average \$4,388

lower than that obtained under the pilot program and moreover that one can be 95% confident that the difference will be in the interval $(-\$7,162, -\$1,614)$. That is, in a statistically sense, one can be 95% confident the pilot program will produce a lower average claim cost of between a range of \$1,614 and \$7,162 or \$ 4388.00 on average.

The methodologies were considered sound and displayed a significant “Probability Factor” of 95% of savings per claim between \$1,614.00 and \$7,162.00. Data from both the ARCON and Non-ARCON claims were based on a statistically similar claimant base.

Synopsis:

Results of the pilot were as follows:

- *Time saving regards total time per claim and vendor involvement*
- *Loss cost savings per claim*
- *Reserve savings per claim*
- *Less DAC involvement and less cost per DAC on average*
- *Reduced Claims Administration costs*
- *Increased access to information through developed processes and on-line systems*
- *Standardization between all vendors*
- *Claim decisions based on “objective” factual functional evidence*

Independent factors that contributed to the success of the program:

1. The Liberty/VerNova Program provided a structure that was understood by both the claims manager and the vendor. The objective Functional Evaluation benchmarks monitoring the claimants' progress throughout the rehabilitation process was seen as a positive directive by all parties concerned. The training of both the rehabilitation service vendors and Liberty Mutual Claims Adjusters on the procedures and protocols involved created a smooth transition to the new program.
2. VerNova standardized technology – the ARCON Functional Evaluation System, combined with custom testing protocols and software, provided vital “objective” functional status information that enabled Claims Adjusters to effectively make time critical decisions on the file.
3. The creation of an executive summary page ensured that the reports contained all the pertinent information required for case management. This page assisted individual Claims Adjusters in understanding the contents of the reports and facilitated the communication between the claims manager and the rehabilitation service vendor. A consistent look and placement of information made the reports easier to understand and guaranteed that all referral questions were addressed.
4. The quality over-read provided by VerNova on functional evaluation reports, improved the consistency of the reports. This tool for quality control and feedback was found to increase the reliability of the process by catching errors and omissions before the reports were finalized.
5. The advanced on-line information-tracking medium that was used throughout the pilot program made information immediately available to the Claims Adjuster, the rehabilitation service vendor, and VerNova. The secure, VerNova proprietary web-based tracking system, ensured that the claims manager was informed at all times regarding the functional status of the claimant. Liberty Mutual administrators had immediate access to the status of all claimants at the various stages of treatment and evaluation, while each claims manager had similar access to track the progress of their individual claimants. Report information was readily available and resulted in streamlining the decision-making process.
6. The Liberty/VerNova program instituted a series of set time lines and process controls for service delivery by the rehabilitation service vendors, which in turn, helped to decrease claim time.
7. The placement of a VerNova representative on the claims floor weekly to monitor and support the Claims Adjusters was a valuable asset to the program.

In conclusion, the goal of the Liberty Mutual/VerNova Pilot Program was to restore an individual to pre-accident work and home activity abilities in a cost effective and timely manner. This was achieved by implementing the Liberty/VerNova program. The results of this program indicate that the Liberty Mutual/VerNova program was both more efficient in successfully returning claimants to pre-accident status, and was a more cost effective process when compared to current Liberty Mutual practices.