



Impact of Aggressive Care in Workers' Compensation

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Executive Summary

Early, Aggressive Care in Workers' Compensation Leads to Faster Claims Resolution, Lower Costs, and Reduced Litigation

Aggressive medical care at the beginning of a workers' compensation claim results in reduced costs, shorter claims duration, and lower litigation rates, according to research from Harbor Health Systems.

The pilot study findings across four categories of injuries showed that the more aggressive approach to care achieved:

- Reductions in claim duration from 13 – 20 percent
- Reductions in indemnity costs from 19 – 61 percent
- Reductions in litigation from 7.2 – 16 percent

The objective of the study was to investigate the differences in overall claims outcomes when comparing aggressive and conservative care in workers' compensation. The findings show that when knowledgeable and experienced physicians were allowed to perform some common specific surgical procedures prior to the recommendations of the guidelines, the outcomes improved. These results demonstrate the importance of integrating best-in-class physicians with the use of evidence-based guidelines, and validate the importance of outcomes-based networks by supporting the concept of working with experienced, proven providers and accelerating care when there is a trusted diagnosis.

The pilot study analyzed information from more than 700,000 claims for four procedures: ACL (anterior cruciate ligament) repair, knee meniscectomy, shoulder rotator cuff repair, and carpal tunnel injuries.

Harbor Health Systems' analysis has previously demonstrated that superior performing physicians produce superior outcomes, and utilized this information to develop benchmarking tools that identify these top doctors for inclusion in best-in-class provider networks. This new research project refines the characteristics that distinguish high-performing physicians and the treatment approaches that achieve better results.

About Harbor Health Systems

Harbor Health Systems, a [One Call Care Management](#) company based in Irvine, Calif., leads a revolution in medical networks that allows customers to build and manage a medical system based on quality performance of providers rather than the "lowest bidder medicine" that is typical of PPOs and HMOs. Harbor Health builds and manages outcomes-based medical networks, and supplies the tools, software and services to help their customers build, implement and optimize custom networks. With Harbor Health Systems, companies can identify physicians and other medical professionals who have exceptional skills in clinical, patient care and business management. By working with these healthcare professionals, payers and self-insured employers can greatly reduce the cost of care, complications, and time away from work. For more information, visit Harborhealthsystems.com.

Impact of Aggressive Care in Workers Compensation

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Overview

Background

Evidence based medicine has become the foundation of every medical care delivery system in the United States and many countries abroad. The infrastructure of this practice is by means of the use of clinical practice guidelines. Virtually all of these guidelines are based on double blind studies published in peer review literature. These guidelines are typically reviewed on an annual basis by a panel of expert physicians, some of whom must be in active clinical practice.

Support for the use of guidelines is that they allow for a reduction in health care variation leading to enhanced value and improved patient care (9). Many medical procedures are done at widely varying rates in different geographic areas. Thus, the use of guidelines is a mechanism to bring uniformity to the delivery of care (29). Although they are designed for “best practice,” this definition can vary between economist and clinician: the economist will view best practice as the maximum health of the patient for a given budget, but the clinician will view it as appropriate treatment until maximal medical improvement is achieved (20).

Criticism of guidelines is that they potentially retard innovation because of lack of consensus of the guideline panel and promote “cookbook” medicine (29). The guidelines require moving beyond the clinical experience and relying on meta-analysis (9). Some literature states that the guideline does little to actually change practice behavior and may result in reducing individualized patient care (7). However, there is conflicting evidence in the literature as to whether medical care is indeed changed by the use of the guideline (22). There is suggestion that guidelines may make sense only when practitioners are unclear about appropriate care (7).

Standardized Clinical Assessment and Management Plans (SCAMPS) were introduced in 2009. They allow for modification for each individual patient’s clinical symptoms and will “readjust” as information is fed into the system and, thus, are essentially “dynamic.” They are seen as a tool for narrowing practice variability while still permitting physicians to adopt treatment pathways based on the clinical information (12). Currently, they are in use primarily in pediatric cardiology and other complex medical conditions with serious co morbidities.

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Objective

Our objective is to complete an initial investigation into the differences in overall claims outcomes when comparing aggressive and conservative care in Workers' Compensation. Within the Workers' Compensation industry in the United States, the Official Disability Guidelines are commonly used to assess the appropriateness of requested medical care. These guidelines typically outline a progressive course of treatment based on the diagnosis of the patient. The purpose of this study is to investigate whether allowing some common specific surgical procedures to be performed prior to the guideline recommendation would impact the outcome of the case. Outcome is measured by cost of the claim (allowed medical cost and other cost), total disability days and duration of the claim. Using the allowed medical fee schedule neutralized any provider contract discounts.

Study Design

Approach

Four retrospective studies were completed, each one using common surgical procedures in Workers' Compensation (1) Arthroscopic anterior cruciate ligament (ACL) repair, (2) Arthroscopic menisectomy of the knee, (3) Rotator cuff repair of the shoulder, and (4) Endoscopic or open carpal tunnel release.

Claim Selection Process

Approximately 700,000 closed claims from three sources (claims administrators and carriers) with a Date of Injury (DOI) between January 1, 2010 and June 30, 2012 were accessed for this study. For each procedure studied, data was mined to identify claims that had bills with the CPT codes defined for each procedure set and affected body parts. 1,162 unique claims in 47 jurisdictions met the CPT criteria.

Any case in which the specific CPT code for the procedure was found, but not paid was deleted from the study. The study, therefore, consisted of only paid surgical procedures to address any issue with the claim itself.

Identification of Aggressive Care Claims

For all claims in each of the procedure groups, the treatment timeline was defined as the time interval between DOI and the first Date of Service of the procedure (DOS).

Official Disability Guidelines (ODG guidelines) from Work Loss Data Institute were used as a reference point to separate the claims into two cohorts:

- Aggressive care (Study Group) is defined where the Date of Surgery was prior to guideline recommendation.
- Conservative care (Control Group) is defined where the Date of Surgery was beyond the guideline recommendation.

For the purposes of this study, three weeks were added to the ODG guidelines to account for the time associated with the logistics of accessing care post DOI and scheduling the surgery.

In the Control Group, any claim where time to the first relevant DOS exceeded the 70th percentile for the study population was excluded. This was done to reduce the impact of outliers and to reduce the influence of claims with potential extenuating issues.

Data Measurements for Analysis

The potential impacts of aggressive care were reviewed in several areas including overall claims outcomes (costs of claims, duration, disability), claim attributes (litigation, recidivism) and utilization (use of medical, use of diagnostics, and use of physical therapy).

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Determination of Utilization

For each of the four studies, specific ICD-9 codes and CPT codes were identified so that only the medical expense for the body part under study would be identified and tabulated. This was an attempt to control for expenses occurring in injuries that encompassed multiple body parts. However, the non-medical expense and total disability days could not be segregated and, therefore, were taken from the closed claim data.

Medical costs were only counted in the utilization comparison when they included either the relevant ICD-9 codes or the CPT codes for the specific procedure under study.

Diagnostic Studies were identified through the use of CPT codes for studies most likely to have been ordered related to the procedure.

Use of physical therapy included all therapy-related procedures regardless of study procedure as they also could not be segregated.

Procedure Details

Arthroscopic repair of the anterior cruciate ligament (ACL) with or without a menisectomy or meniscus repair

Surgical Anterior Cruciate Ligament reconstruction has become the standard of care for this injury. Long-term studies of patients who had persistent deficiencies of this ligament showed a high incidence of development of osteoarthritis leading to ongoing treatment with cortisone and sodium hyaluronate injections and ultimately, total knee replacement. The California Workers' Compensation Institute (CWCI) in an earlier study showed that ACL reconstruction was within the top 10 surgeries paid in the California system.

Isolated anterior cruciate ligament repairs, anterior cruciate ligament repair with menisectomy only and anterior cruciate ligament repair with meniscal repair only were too small a population for study; thus, they were combined with the clinical assumption that the anterior cruciate ligament repair was the more complex of any other meniscal procedures.

Procedure Codes used to identify claims

Any claim with a bill that included the CPT code 29888 was included in this analysis.

Guideline used to identify Aggressive Care claims (Study Group)

Guidelines call for greater than six weeks of conservative treatment.

Medical Utilization Criteria

Medical costs related to this group we identified using the following:

- CPT codes:

29888	29881	29883
29880	29882	

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- ICD-9: Diagnosis codes related to internal derangement of knee, tear meniscus, knee effusion, regional knee pain, enesthopathy of knee, sprain/strain of the knee, sprain or tear of the anterior cruciate ligament

717-717.43	719.0	719.96	844.2
717.49	719.06	726.6	844.8
717.5	719.4	726.60	844.9
717.83	719.46	726.69	
717.89	719.56	836.0-836.2	
717.9	719.66	844	

Diagnostic Utilization Criteria

Codes used to identify Diagnostic Studies used in this procedure group include:

- MRI joint lower extremity without contrast, MRI joint lower extremity with contrast, MRI joint lower extremity without contrast followed by MRI with contrast

73721	73723	73562	73565
73722	73560	73564	73580

Arthroscopic medial and/or lateral menisectomy

Tears of the medial and/or lateral meniscus of the knee are common injuries. The California Workers Compensation Institute (CWCI) data from an earlier study showed that the incidence of this injury is within the top 10 in frequency, and the payment for this surgery is the number one surgical procedure.

Procedure Codes used to identify claims

Any claim with a bill that included either CPT code 29880 or 29881 qualified for this analysis.

Guideline Recommendations

Guidelines call for greater than four weeks of conservative treatment.

Medical Utilization Criteria

Medical costs related to this group we identified using the following:

- CPT codes:

29880	29881
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- ICD-9 codes: Internal derangement of knee, tear meniscus, knee effusion, regional knee pain, enesthopathy of knee, sprain/strain of the knee

717-717.43	719.06	719.66	836.0-836.2
717.49	717.16	719.96	844
717.5	719.0	726.6	844.8
717.89	719.46	726.60	
717.9	719.56	726.69	

Diagnostic Utilization Criteria

Codes used to identify Diagnostic Studies used in this procedure group include:

- MRI joint lower extremity without contrast, MRI joint lower extremity with contrast, MRI joint lower extremity without contrast followed by MRI with contrast

73721	73723	73562	73565
73722	73560	73564	73580

Arthroscopic or mini open rotator cuff repair of the shoulder

Tears of the rotator cuff often present as simple strains or inflammation of the shoulder. However, complete tears documented on MRI scan almost always require surgical intervention and were found by the California Workers Compensation Institute (CWCI) in an earlier study to be within the top 10 in payment for all CPT codes

Procedure Codes used to identify claims

Any claim with a bill that included either CPT code 29827 or 23412 qualified for this analysis.

Guideline Recommendations

Guidelines call for greater than 12 weeks of conservative treatment.

Medical Utilization Criteria

Medical costs related to this group we identified using the following:

- CPT codes:

29827	23412
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- ICD-9: Tear rotator cuff, tendonitis of shoulder, bursitis of shoulder, shoulder impingement, adhesive capsulitis, contusion of the should/upper arm, strain/sprain of shoulder and upper arm, other affectations of the shoulder/upper arm

719.01	726	727.3	840.9
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719.41	726.0	727.61	923
719.51	726.1	840	923.0-923.09
719.61	726.10-726.19	840.0-840.6	
719.91	726.2	840.8	

Diagnostic Utilization Criteria

Codes used to identify Diagnostic Studies used in this procedure group include:

- MRI joint upper extremity without contrast, MRI joint upper extremity with contrast, MRI joint upper extremity without contrast followed by MRI with contrast

73221	73223	73000
73222	73020-73050	73010

Open or Endoscopic Carpal Tunnel Release

Carpal Tunnel Syndrome has become a very common injury due to continuous trauma rather than a specific injury. The insidious progression and strong correlation to work activity predispose these patients to an inordinate period of disability or light duty and at times a need for vocational rehabilitation. The California Workers' Compensation Institute (CWCI) in an earlier study demonstrated that carpal tunnel release was in the top 10 diagnoses in frequency as well as payment for all CPT codes.

Procedure Codes used to identify claims

Any claim with a bill that included CPT code 64721 or 29848 qualified for this analysis.

Guideline Recommendations

Guidelines call for greater than eight weeks of conservative treatment.

Medical Utilization Criteria

Medical costs related to this group we identified using the following:

- CPT codes:

64721	29848
-------	-------

- ICD-9: Carpal tunnel syndrome, mono neuritis of upper limb, enesopathy of wrist, strain/sprain wrist and hand, strain/sprain flexor tendons wrist and hand

354	719.63	726.4	842.0-842.19
354.0-354.9	719.64	727.05	848.9
719.43	719.93	727.64	

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719.44

719.94

842

Diagnostic Utilization Criteria

Codes used to identify Diagnostic Studies used in this procedure group include:

- Motor and/or sensory nerve conduction each limb, needle EMG 1 extremity, needle EMG 2 extremities, x rays of wrist and hand

95905

73100

73115

73130

95860

73110

73120

73140

95861

Analysis and Results

Univariate and Multivariate Analyses of the Data

The following sections provide simple demographics, univariate statistics (median \pm IQR), and univariate comparisons (by the use of the Wilcoxon rank-sum or Fisher's exact test for quantitative and qualitative data, respectively) for each of the four procedures considered. Results are compared according to the definition of "Study Group" (aggressive care) versus "Control Group" (conservative care – full definitions of these Groups provided on page 4).

Overall, the comparison across all procedures is shown below.

Table 1: Comparison Across all Cohorts			
	Study Group	Control Group	p-Value
Count of Claims	219	943	
Claims with Multiple Body Parts	27 (12.6%)	112 (12.6%)	0.97
Gender (males)	160 (73%)	586 (62%)	0.005

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ACL reconstruction

ACL Group Demographics

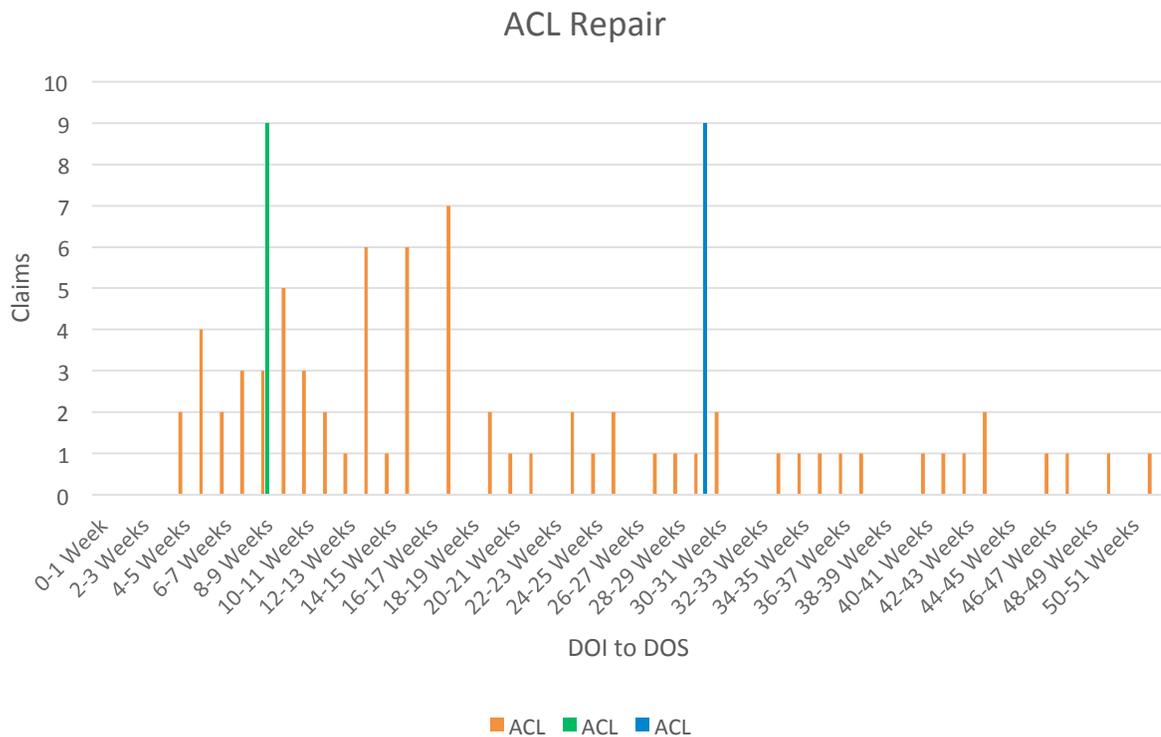
The following tables provide the observations for each of the cohorts.

Table 2: Comparison of Demographics in ACL Study			
	Study Group	Control Group	p-Value
Count of Claims	14	43	
Claims with Multiple Body Parts	0 (0%)	2 (4.9%)	0.61
Gender (males)	10 / 14	30 / 42*	1.0
Age (years)	34.5 (\pm 17)	37 (\pm 15)	0.50

**no gender available for one participant*

Overall Demographics were not significantly different between study and control populations.

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Graph 1: ACL Claim Distribution

The graph above provides the count of claims with the relevant date of service by weeks from DOI. The Green bar shows where guideline should fall, and the blue bar marks the 70th percentile of claims.

ACL Outcomes

Significant findings are highlighted in blue, including a decrease in claims duration in the study group.

Table 3: Observations in ACL Study

Parameter	Control Group (n=43)	Study Group (n=14)	p-Value
Incurring total	41,477 (± 30,420)	26,905 (± 22,046)	0.009
Incurring medical	25,590 (± 14,727)	19,559 (± 16,460)	0.15
Incurring indemnity	13,866 (± 20,692)	5,324 (± 8,297)	0.02
Incurring expense	1,787 (± 3,750)	1,535 (± 2,293)	0.37
TTD days	89 (± 122)	76 (± 115)	0.45
TTD paid	5,400 (± 9,573)	2,749 (± 5,942)	0.21

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Weeks from DOI to 1 st DOS	16 (± 7)	6 (± 2)	<10 ⁻⁶
Claim duration (days)	384 (± 241)	305 (± 182)	0.052
Allowed all	18,686 (± 16,715)	14,590 (± 15,751)	0.44
Allowed med	16,223 (± 14,473)	12,517 (± 9,150)	0.25
E/M allowed	658 (± 512)	515 (± 527)	0.35
Diagnostic allowed	211 (± 556)	635 (± 721)	0.14
Surgery allowed	6,346 (± 7,996)	4,106 (± 7,023)	0.48
PM allowed	2,655 (± 3,031)	2,762 (± 4,382)	0.52
Pharm allowed	78 (± 1,004)	360 (± 776)	0.84
Hospital allowed	7,351 (± 13,603)	5,138 (± 14,204)	0.78
Other medical allowed	848 (± 1,282)	826 (± 1,129)	0.53
Non-medical allowed	1,555 (± 2,615)	538 (± 1,938)	0.36
Litigation rate	7 / 43	0 / 14	0.18
Re-open rate	5 / 43	2 / 14	1.0

** Wilcoxon rank-sum test except for gender, litigation and re-open using Fisher's exact test*

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Knee menisectomy

Knee Menisectomy Group Demographics

The following tables provide the observations for each of the cohorts.

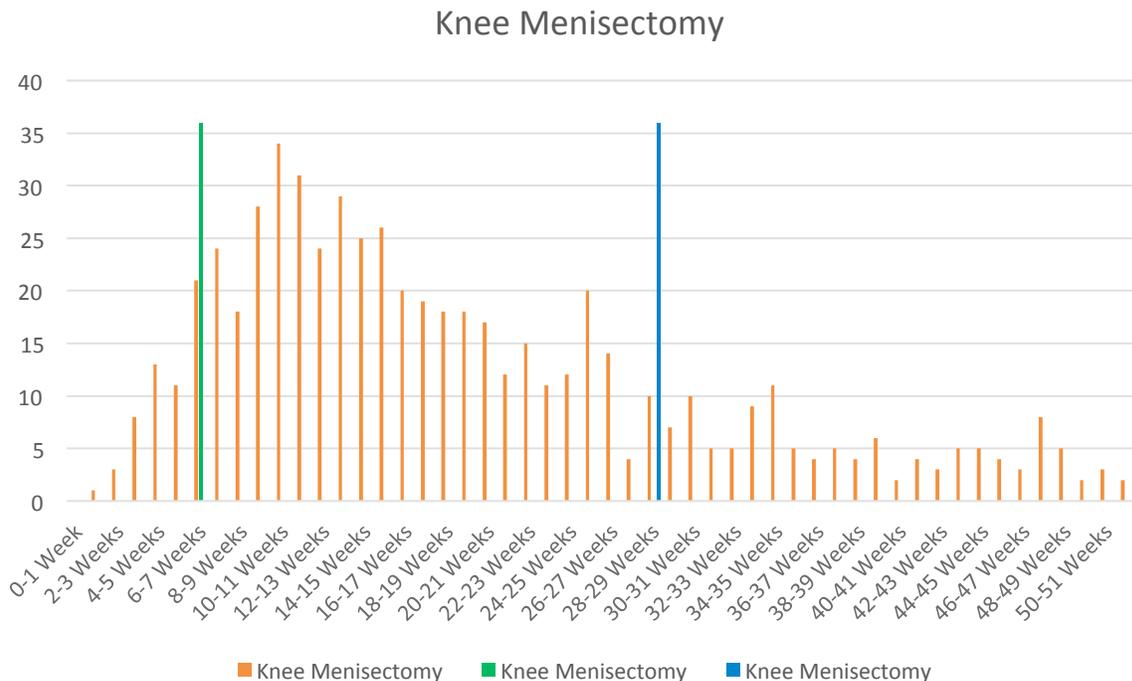
Table 4: Comparison of Demographics in Menisectomy Study			
	Study Group	Control Group	p-Value
Count of Claims	57	429	
Claims with Multiple Body Parts	2 (3.5%)	39 (9.5%)	0.15
Gender (males)	48 / 57	318 / 426*	0.14
Age (years)	45 (± 18)	51 (± 14)	0.01

*gender missing for three participants

Thus, the Control Group was older. The other demographics were not statistically different between the two populations.

Graph 2: Knee Menisectomy Claim Distribution

The graph below provides the count of claims with the relevant date of service by weeks from DOI. The Green bar shows where guideline should fall, and the blue bar marks the 70th percentile of claims.



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Knee Menisectomy Outcomes

Significant findings are highlighted in blue, including the decrease in claims duration in the study group.

Table 5: Outcomes Comparison of Knee Menisectomy Claims

Parameter	Control Group (n=429)	Study Group (n=57)	p-Value
Incurred total	21,294 (± 20,446)	17,248 (± 16,461)	0.02
Incurred medical	11,571 (± 8,169)	9,636 (± 7,237)	0.14
Incurred indemnity	7,755 (± 12,097)	5,874 (± 7,698)	0.06
Incurred expense	1,015 (± 1,681)	663 (± 1,171)	0.01
TTD days	42 (± 87)	56 (± 81)	0.47
TTD paid	3,733 (± 7,113)	3,826 (± 5,650)	0.52
Weeks from DOI to 1 st DOS	15 (± 9)	6 (± 2)	<10 ⁻⁶
Claim duration (days)	332 (± 230)	289 (± 185)	0.006
Allowed all	8,736 (± 6,621)	8,545 (± 6,084)	0.98
Allowed med	7,948 (± 6,171)	7,955 (± 6,627)	0.94
E/M allowed	520 (± 664)	375 (± 429)	0.10
Diagnostic allowed	269 (± 637)	446 (± 530)	0.94
Surgery allowed	3,309 (± 3,450)	2,407 (± 2,660)	0.19
PM allowed	1,045 (± 2,058)	1,300 (± 1,826)	0.84
Pharm allowed	82 (± 235)	56 (± 102)	0.14
Hospital allowed	2,108 (± 4,942)	3,024 (± 5,501)	0.09
Other medical allowed	600 (± 869)	514 (± 626)	0.26
Non-medical allowed	229 (± 708)	253 (± 445)	0.93
Litigation rate	61 / 429	4 / 57	0.15
Re-open rate	76 / 429	7 / 57	0.35

* Wilcoxon rank-sum test except for gender, litigation and re-open using Fisher's exact test

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Shoulder Rotator Cuff repair

Rotator Cuff Demographics

The following tables provide the observations for each of the groups.

Table 6: Comparison of Demographics in Rotator Cuff Study			
	Study Group	Control Group	P-Value
Count of Claims	112	153	
Claims with Multiple Body Parts	16 (14.8%)	23 (16.1%)	0.78
Gender (males)	87 / 112	98 / 152*	0.02
Age (years)	52.8 (± 9.1)	51.6 (± 9.2)	0.42

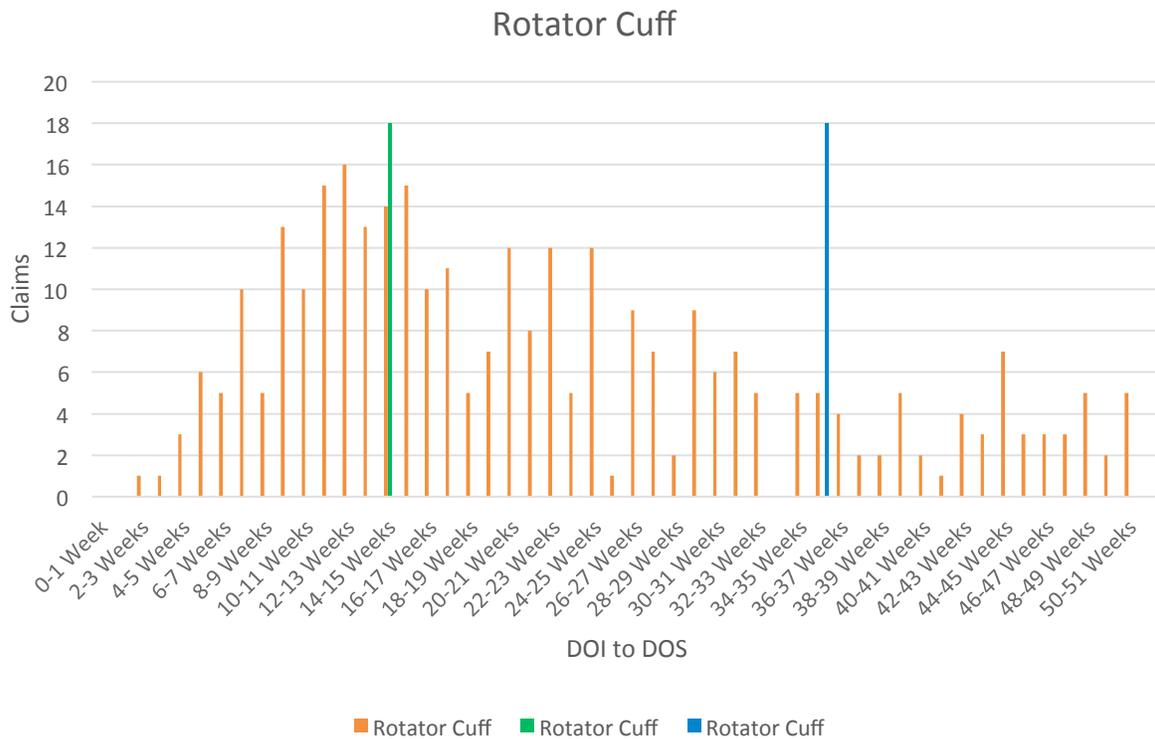
**gender missing for one participant*

Thus, the Control Group tended to be more male.

Graph 3: Rotator Cuff Claim Distribution

The graph below provides the count of claims with the relevant date of service by weeks from DOI. The Green bar shows where guideline should fall, and the blue bar marks the 70th percentile of claims.

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Rotator Cuff Outcomes

Significant findings are highlighted in blue, again showing a decrease in claims duration when aggressive care was implemented.

Table 7: Outcomes Comparison of Rotator Cuff Claims

Parameter	Control Group (n=153)	Study Group (n=112)	p-Value *
Incurring total	45,876 (± 35,585)	39,844 (± 30,023)	0.004
Incurring medical	25,384 (± 16,005)	21,657 (± 16,000)	0.04
Incurring indemnity	16,675 (± 24,024)	13,431 (± 18,858)	0.04
Incurring expense	2,584 (± 3,279)	1,869 (± 2,853)	0.03
TTD days	123 (± 147)	112 (± 125)	0.006
TTD paid	8,373 (± 13,477)	5,508 (± 9,765)	0.07
Weeks from DOI to 1 st DOS	23 (± 10)	11 (± 4)	<10 ⁻⁶
Claim duration (days)	459 (± 235)	390 (± 324)	0.02
Allowed all	19,964 (± 15,843)	17,786 (± 17,047)	0.55
Allowed med	19,280 (± 13,976)	16,943 (± 16,116)	0.69

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E/M allowed	805 (± 1,014)	709 (± 607)	0.45
Diagnostic allowed	226 (± 759)	191 (± 748)	0.96
Surgery allowed	6,664 (± 8,542)	5,450 (± 7,542)	0.36
PM allowed	3,191 (± 4,088)	3,412 (± 4,364)	0.35
Pharm allowed	104 (± 348)	103 (± 154)	0.54
Hospital allowed	6,579 (± 11,686)	3,879 (± 10,534)	0.21
Other medical allowed	1,356 (± 1,591)	1,345 (± 1,436)	0.99
Non-medical allowed	580 (± 1,272)	556 ± (1,016)	0.93
Litigation rate	29 / 153	16 / 112	0.41
Re-open rate	26 / 153	17 / 112	0.74

** Wilcoxon rank-sum test except for gender, litigation and re-open using Fisher's exact test*

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Carpal tunnel release

Carpal Tunnel Demographics

Table 8: Comparison of Demographics in Carpal Tunnel Study			
	Study Group	Control Group	p-Value
Count of Claims	36	318	
Claims with Multiple Body Parts	9 (25.0%)	48 (15.8%)	0.16
Gender (males)	15 / 36	140 / 317*	0.86
Age (years)	48 (± 18)	49 (± 17)	0.57

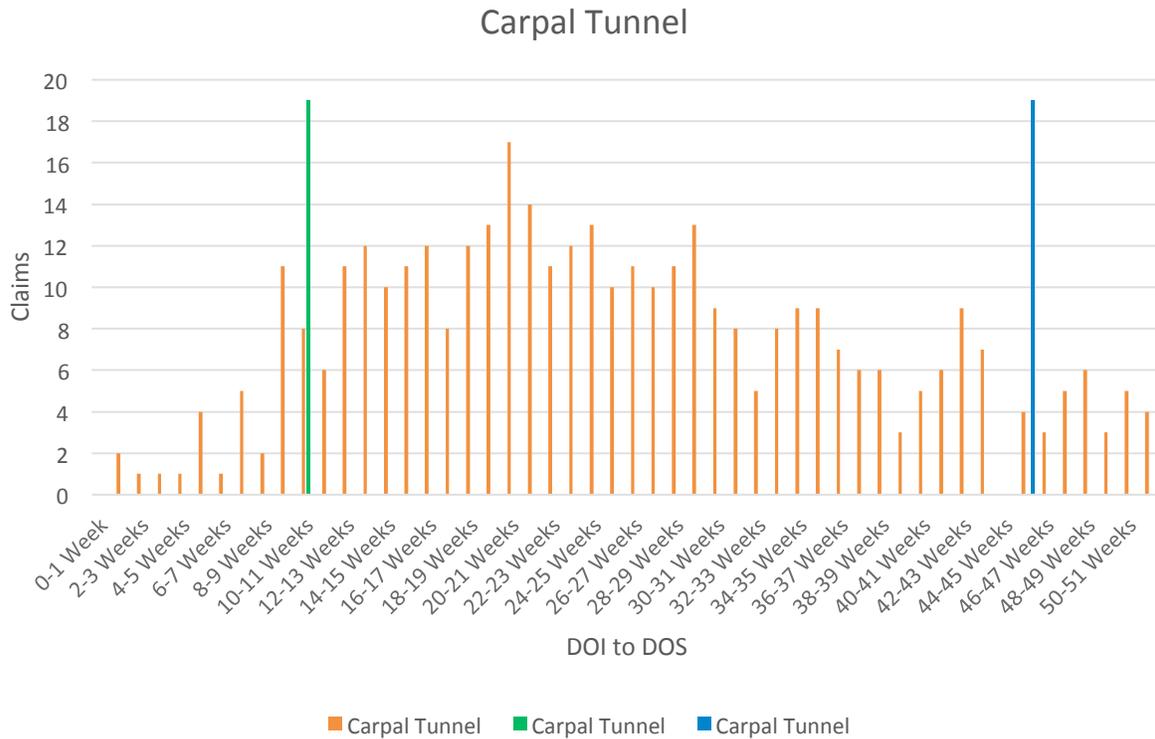
**gender missing for one participant*

Thus, the Study Group's demographics were not statistically different from the Control Group's demographics.

Graph 4: Carpal Tunnel Claim Distribution

The graph below provides the count of claims with the relevant date of service by weeks from DOI. The Green bar shows where guideline should fall, and the blue bar marks the 70th percentile of claims.

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Carpal Tunnel Outcomes

Findings show again, a significant decrease in claims duration.

Table 9: Outcomes Comparison of Carpal Tunnel Claims

Parameter	Control Group (n=318)	Study Group (n=36)	p-value
Incurred total	17,053 (± 20,782)	14,008 (± 18,035)	0.48
Incurred medical	8,886 (± 7,149)	9,577 (± 10,440)	0.77
Incurred indemnity	5,041 (± 11,787)	2,813 (± 5,738)	0.11
Incurred expense	893 (± 1,801)	1,083 (± 1,560)	0.70
TTD days	31 (± 82)	34 (± 76)	0.44
TTD paid	2,769 (± 6,048)	1,753 (± 5,538)	0.32
Weeks from DOI to 1 st DOS	25 (± 14)	9 (± 4)	<10 ⁻⁶
Claim duration (days)	344 (± 192)	280 (± 179)	0.001
Allowed all	6,322 (± 6,032)	6,366 (± 9,146)	0.68
Allowed med	5,915 (± 5,618)	6,181 (± 8,962)	0.65

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E/M allowed	412 (± 550)	265 (± 344)	0.004
Diagnostic allowed	128 (± 152)	164 (± 131)	0.60
Surgery allowed	1,853 (± 2,091)	2,225 (± 4,101)	0.76
PM allowed	938 (± 1,564)	613 (± 1,257)	0.43
Pharm allowed	65 (± 180)	2,115 (± 0) (n=1)	0.12
Hospital allowed	2,187 (± 4,470)	1,805 (± 4,888)	0.54
Other medical allowed	934 (± 1,379)	674 (± 1,998)	0.32
Non-medical allowed	101 (± 319)	144 (± 230)	0.46
Litigation rate	55 / 318	2 / 36	0.09
Re-open rate	53 / 318	8 / 36	0.48

* *Wilcoxon rank-sum test except for gender, litigation and re-open using Fisher's exact test*

Observations

In all of the procedures studied, there is a statistically significant shorter time in the Study Group (aggressive care) versus the Control Group (conservative care) with regard to the interval between the DOI and DOS. Therefore, the premise of this paper is validated as this parameter confirmed the validity of the cohorts.

All Study Groups showed a remarkably shorter difference in claim duration compared to the Control Groups. This was most dramatic in the carpal tunnel release group and the menisectomy group.

The menisectomy, rotator cuff and carpal tunnel repair had a lower evaluation and management (E&M) amount in the Study Group compared to the Control Group. This was most dramatic in the carpal tunnel release group.

The total incurred expense was markedly lower in the Study Group in the ACL reconstruction, menisectomy, and rotator cuff repair compared to the Control Group.

The allowed total medical was lower in the Study Group compared to the Control Group for rotator cuff repair and anterior cruciate ligament reconstruction. There was minimal difference in total allowed medical in the carpal tunnel and knee menisectomy groups.

TTD days were lower in the Study Group for anterior cruciate ligament reconstruction, rotator cuff repair and carpal tunnel release and incurred indemnity difference was most dramatic in these groups.

Looking at the aggregate data combining the Study Groups and Control Groups of all four sets studied, there was a remarkably lower litigation rate in the Study Group compared to the Control Group. Perhaps a perceived delay of care led to the higher litigation rate in the Control Group, or by virtue of the litigation and perhaps change of treating Physicians, the surgery was delayed in the Control Group.

There appeared to be an unexpected large time interval between the date of injury and date of surgery in the Control Group for ACL reconstruction (15.7 weeks). This long interval would not be in accord with the standard of practice. However, the litigation rate in the Control Group was 17.1% versus the Study Group that was 0%. The interval might be accounted for because of claim factors such as delay of the claim and/or delay of the body part, which likely led to the litigation.

Study Limitations

There was no actual clinical data analyzed and thus no ability for documentation of the severity of injury within each of the groups. There was no access to the utilization review policies and results as it pertained to the surgical procedures within each group, although any claim with a surgical procedure performed but not paid was excluded from the study.

Employer and individual adjuster preferences were not accounted for. Certain employers might have favored early aggressive care for their employees and certain adjusters might have allowed early aggressive care based on their preference of the specific treating physician.

No information was available with regard to the physical demands of the specific Injured Worker's job in either group. Thus there was no breakdown of the TTD days on the basis of the physical demands of the job.

There was no information on the specific issues of a claim. Thus a delayed claim, which may account for a longer time between the date of injury and date of surgery, was not able to be adjusted for.

Lastly, some data fields were not universally populated leading to variance in the sample size for some of the outcome measures.

Conclusions

It is difficult to draw concrete conclusions from a pilot study. There is a possibility that the injured workers in the Study Group may have had more severe clinical presentations and therefore were not able to complete the recommended non-operative treatment and were moved to surgery earlier than guideline dictated. However, noted above, it may also have been on the basis of employer and/or adjuster preference.

We see, however, that there was a universal decrease in claim duration, TTD days, incurred medical and even total allowed medical as outlined in this study. Thus, allowing more aggressive care early can potentially bear benefits to the claim without a negative impact on the cost of the claim.

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