

Comprehensive Catastrophic Care Management Project

2019 Report to the Legislature

January 2020

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Executive Summary

Introduction

The Department of Labor and Industries (L&I) is dedicated to helping injured workers heal and return to work. The quality of care provided to catastrophically injured workers is a major factor in promoting healing, improving return to work outcomes, and preventing disability for these workers.

A 2016 supplemental budget proviso¹ approved by the Washington State Legislature funded a pilot project in which the Department of Labor & Industries (L&I) was to partner with an experienced firm or firms to manage care of catastrophically injured workers. The proviso included requirements intended to ensure that catastrophically injured workers receive the highest quality care, as well as timely and effective claim resolution.

L&I is pleased to provide the fourth annual report on the progress of the pilot program from January through November 2019. As of October 2019, parties approved a contract extension through 2021. Reports on the program will continue annually through December 2021. [The December 2018 report](#) is available on L&I's website: <http://www.lni.wa.gov/Main/AboutLNI/Legislature/Reports.asp>.

What is a catastrophic injury?

For the purposes of this report, the initial identification of a catastrophic injury begins with a work-related injury that:

- Is managed by L&I.
- Requires hospitalization within 24 hours.
- Requires at least four consecutive days of hospitalization.

If the injury meets these criteria, the clinical team does further medical review to determine if it is catastrophic.

Comprehensive Care Management Plan

L&I follows a five-point Comprehensive Catastrophic Care Management plan to improve the care of Washington's most severely injured workers. L&I developed this plan in 2015 after identifying strengths and gaps in the care of these workers. Since then, the agency has determined that one of the plan's goals ("Improve outcomes and quality of care, as well as prevent disability for injured workers through catastrophic care coordination") represents the scope of the project. The remaining four goals, listed below, are in service to that overarching need:

- Increase use of external nurse case management services for catastrophic claims.
- Create an internal L&I referral team to medically manage catastrophic claims.
- Establish Centers of Excellence for catastrophic injuries.
- Conduct retrospective and prospective evaluations of catastrophic care management.

¹ 2ESHB 2376, section 217(8)

2019 progress

L&I has been systematically identifying and proactively monitoring catastrophic claims since 2015. The agency received significantly fewer catastrophic claims in calendar year 2019, continuing a downward trend in these injury claims over the last 10 years. Of the 41 catastrophic claims received between January and November 2019, 41 of those, or 100 percent, were assigned to a nurse case manager in 2019 -- up from just over five percent when the project began. L&I expects to continue to assign all or nearly all catastrophic claims to a nurse case manager.

Between October 2015 and November 2019, 449 claims submitted to L&I met the criteria for catastrophic injury. Of these, more than half (54 percent) were “multiple trauma,” meaning they involved significant injuries to more than one area of the body. The remaining injury types -- including brain injuries, major burns, spinal cord injuries, and amputations – these represent between three percent and 15 percent of the catastrophic claims received during this period. Included with these injury types is an “other” category to identify claims not represented by the main injury types. Examples of “other” catastrophic injuries are severe respiratory distress caused by chemical exposure, anaphylaxis, internal organ damage, and single limb injuries with significant tissue damage.

L&I’s process for determining whether a case is a catastrophic injury now includes an initial medical review by the agency’s internal referral team, created and implemented in response to the Comprehensive Catastrophic Care Management plan goals. This team is referred to in the report as the “clinical team.”

The clinical team identifies catastrophic claims within days of a worker’s hospitalization, and immediately assigns them to a “catastrophic team” consisting of claim managers and Occupational Nurse Consultants (ONCs) focused solely on catastrophic cases. As a result of this coordination, communication about the claim, assessment of the worker’s needs, and medical services occur earlier and more consistently than previously. Claims are proactively monitored with oversight by an L&I clinician until the injured worker returns to work or the claim is closed.

Building on significant strides made in 2018, L&I continued to make progress from January through November 2019 toward meeting the goals of the Comprehensive Catastrophic Care Management plan as follows:

1. Increase use of **external nurse case management** services for catastrophic claims.
 - L&I continued to increase use of nurse case managers (NCMs) for workers recovering from catastrophic industrial injuries, ensuring effective care coordination as injured workers transition from acute care to the recovery phase.
 - L&I has ensured that all catastrophic claims receive NCM services for at least 90 days.
 - The agency continued to work with and evaluate services provided by four established firms that provide NCM services to catastrophically injured workers.
 - L&I has continued providing individualized guidance and feedback to each NCM firm.

2. Create an **internal L&I referral team** (clinical team) to medically manage catastrophic claims.
 - L&I's clinical team continues to engage with central office and regional staff to more clearly identify and define care coordination roles.
 - The agency launched a pilot to determine the value of assigning NCM services for the first 90 days for all catastrophic claims; as a result, the clinical team now assigns a nurse case manager to all catastrophic cases for at least 90 days to aid with care coordination and help reduce worker disability.
 - The clinical team continues to focus on developing a closer working relationship with the L&I regional nursing staff and expand regional nurse involvement to benefit individual communities.
 - The catastrophic team continued to standardize the ways in which durable medical equipment, housing, and vehicle modifications are provided to catastrophically injured workers to assist in reintegrating workers to home and community.
 - The catastrophic team collaborates with L&I's Therapy Services program to increase injured workers' participation in activity coaching to aid in their recovery through a technique developed by the Progressive Goal Attainment Program® (PGAP). Between January 1, 2018 and November 30, 2019, 20 catastrophic claims were referred to PGAP. Seventeen claimants have been assigned an activity coach, and 15 have attended an initial assessment.
 - The Office of the Medical Director (OMD) continues to work with the Occupational Health Management System (OHMS) technology team to expand data collection enabling improved catastrophic claim tracking and management.
3. Establish **Centers of Excellence** for catastrophic injuries.
 - L&I developed Centers of Excellence to assist catastrophically injured workers, and the agency continues to work with Harborview Medical Center to create a resource in Washington that provides care collaboration and specialty assistance to those affected by an industrial injury.
4. Conduct **retrospective and prospective evaluations** of catastrophic care management.
 - L&I continues to work with the University of Washington (UW) on a study to assess functional gains, community integration, and mental and social functioning of injured workers. Enrollment in the UW study ended October 31, 2018.

2020 goals

L&I expects to continue making significant progress on the Comprehensive Catastrophic Care Management plan in 2020. Planned 2020 actions in each goal area are described below.

1. Increase use of **external nurse case management** services for catastrophic claims.
 - L&I will continue to assign intensive care management of catastrophic claims to the contracted external NCM firms, and is currently exploring options for extending contracts for external nurse case management services.
 - L&I will continue to work toward defining standards of care that reflect best practices in order to ensure workers receive equitable, quality care regardless of their location.
 - L&I will continue to evaluate and assign appropriate levels of nurse case management to catastrophically injured workers. The catastrophic team is dedicated to providing all catastrophically injured workers with care coordination resources to assist with recovery.
 - L&I will further identify and establish the criteria for assignment of NCMs on all workers' compensation claims. The agency will apply the lessons learned and the resources established within the catastrophic project to the larger industrial insurance community.
2. Create an **internal L&I referral team** (clinical team) to medically manage catastrophic claims.
 - L&I's dedicated team of claim managers and ONCs will continue to manage catastrophic claims.
 - The agency will continue to integrate additional established ONC and regional staff into the clinical team to help ensure a robust care collaboration community.
 - L&I will continue to use internal tools, such as OHMS, to track referrals to the Centers of Excellence and to monitor and evaluate the progress of injured workers.
 - The catastrophic team will continue to authorize and coordinate obtaining durable medical equipment, as well as home and vehicle modification, as soon as possible when the need is recognized.
3. Establish **Centers of Excellence** for catastrophic injuries.
 - The agency is currently exploring options for extending Centers of Excellence contracts.
 - L&I will identify a future state for the Centers of Excellence, including working to develop standards for additional Centers of Excellence that will assist in providing supplementary resources to workers with specialized needs.
 - L&I will work to identify and overcome barriers to ensure physical rehabilitation services are more readily available to catastrophically injured workers.
4. Conduct **retrospective and prospective evaluations** of catastrophic care management.
 - The UW's prospective evaluation continues to track data on enrolled catastrophically injured workers. L&I will review and analyze findings from the UW report to help determine how

modifications to current practices can overcome gaps in care, as well as identify additional care collaboration needs that were not discovered during the pilot period.

Introduction

Washington's workers' compensation system provides benefits to workers who suffer from an occupational disease or work-related injury. It pays for medical treatment and partial wage replacement, and provides disability benefits.

The Department of Labor and Industries (L&I) is dedicated to helping injured workers heal and return to work. The quality of care provided to catastrophically injured workers is a major factor in promoting healing, improving return to work outcomes, and preventing disability for these workers. The 2016 supplemental budget passed by the Washington State Legislature funded a pilot project to manage care for catastrophically injured workers through a Comprehensive Catastrophic Care Management plan that ensures these workers receive the highest quality care and timely and effective claim resolution. The initial identification of a catastrophic injury begins with a work-related injury that:

- Is managed by L&I.
- Requires hospitalization within 24 hours.
- Requires at least four consecutive days of hospitalization.

If the injury meets these criteria, the clinical team does further medical review to determine if it is catastrophic.

The pilot project funded by the legislature aims to address gaps identified in a 2014 L&I evaluation of the care received by catastrophically injured workers (Catastrophic Claims Gap Analysis). It also provides a more integrated and formalized role for L&I staff with clinical expertise in the medical management of catastrophic claims, to help L&I ensure the highest quality health outcomes and reduce disability and lost work days for catastrophically injured workers.

This report summarizes the progress made in accomplishing the pilot project goals from January through November 2019, and identifies planned next steps for 2020.

Progress and Achievements in 2019

L&I has been systematically identifying and proactively monitoring catastrophic claims since 2015. The agency received significantly fewer catastrophic claims in calendar year 2019, continuing a downward trend in these injury claims over the last 10 years. Of the 41 catastrophic claims received between January and November 2019 that met L&I's definition of a catastrophic injury, 41 of those, or 100 percent, were assigned to a nurse case manager in 2019 -- up from just over five percent when the project began.

Between October 2015 and November 2019, 449 claims submitted to L&I met the criteria for catastrophic injury. Of these, more than half (54 percent) were "multiple trauma," meaning they involved significant injuries to more than one area of the body. The remaining injury types -- including brain injuries, major burns, spinal cord injuries, and amputations -- each represent between three percent and 15 percent of the catastrophic claims received during this period. Included with these injury types is an "Other" category to identify claims not represented by the main injury types. Examples of "other" catastrophic injuries are severe respiratory distress caused by chemical exposure, anaphylaxis, internal organ damage, and single limb injuries with significant tissue damage.

L&I's process for determining whether a case is a catastrophic injury now includes an initial medical review by the agency's clinical review team. This team consists of a clinical nurse specialist, an associate medical director, four occupational nurse consultants, and a medical program specialist. The clinical review team identifies catastrophic claims within days of a worker's hospitalization, and immediately assigns them to -- a "catastrophic team" consisting of claim managers and Occupational Nurse Consultants (ONCs) who are focused solely on catastrophic cases. As a result of both these teams' review, communication about the claim, assessment of the worker's needs, and medical services occur earlier and more consistently than previously. Claims are proactively monitored with oversight by an L&I clinician until the injured worker returns to work or the claim is closed.

L&I follows a five-point Comprehensive Catastrophic Care Management plan to improve the care of Washington's most severely injured workers. L&I developed this plan in 2015 after identifying strengths and gaps in the care of these workers. Since then, the agency has determined that one of the plan's goals ("Improve outcomes and quality of care, as well as prevent disability for injured workers through catastrophic care coordination") represents the scope of the project. The remaining four goals, listed below, are in service to that overarching need:

- Increase use of **external nurse case management** services for catastrophic claims.
- Create an **internal L&I referral team** to medically manage catastrophic claims.
- Establish **Centers of Excellence** for catastrophic injuries.
- Conduct **retrospective and prospective evaluations** of catastrophic care management.

This section of the report describes actions L&I took from January through November 2019 to achieve the project goals.

EXTERNAL NURSE CASE MANAGEMENT

L&I continues to use four of the five nurse case management firms that initially contracted with the department in 2015 and 2016. These four firms continued to function as defined in their contracts throughout 2019.

L&I's Catastrophic Claims Gap Analysis showed that between 2005 and 2011, 5.3 percent of catastrophic claims were assigned a nurse case manager (NCM). The department has found that assigning NCMs to cases involving certain injury types and severity, or other complications related to an injured worker's claim, can improve workers' experiences and outcomes. L&I plans to continue to assign catastrophic claims to receive NCM services as deemed appropriate by the catastrophic care ONC. As of 2019, L&I is assigning care coordination to all catastrophically injured workers.

Hourly rate case management

L&I refers cases to two firms that bill based on an hourly rate – Rainier Case Management Inc., and Stubbe and Associates. Work activities are assigned to each firm's NCMs and are overseen by L&I's ONCs.

As of November 2019, Rainier Case Management, Inc. has accepted 40 referrals for management of catastrophically injured workers, and Stubbe and Associates has accepted 61.

Outcomes-based case management

L&I refers cases for outcomes-based management to two firms, based on injury type: Comagine Health and Paradigm Outcomes.

Comagine

The Comagine Health contract focuses on isolated spinal injuries and traumatic brain injuries, treated only at Harborview Medical Center. Comagine Health provides care management for a fixed case rate until the worker reaches "maximum rehabilitation," meaning the worker:

- Is discharged to appropriate long-term placement such as a home or residential facility after completing rehabilitation.
- Has achieved his or her vocational goals or has a vocational plan in place.
- Has a life-care plan established when appropriate.

Achievement of desired outcomes is measured by:

- The ultimate expected level of recovery at the end of rehabilitation (approximately 18 months).
- Functional recovery milestones measured at discharge and at six, 12, and 18 months after injury.

- Successful achievement of all transitions identified in the patient care plan (for example, transition from a long-term care facility to home).
- Evaluation for mental health services and receipt of appropriate services, if indicated.
- Patient and family satisfaction.

If the desired outcomes are not achieved at maximum rehabilitation or by 18 months following injury, L&I and Comagine Health will evaluate the case to determine the reasons the outcomes were not met and to establish next steps.

As of November 2019, Comagine Health has accepted six referrals for management of catastrophically injured workers.

Paradigm Outcomes

The Paradigm Outcomes contract focuses on higher-severity catastrophic injuries.

Paradigm provides care management based on an individual outcome plan. Care management continues until achievement of the outcome agreed to by Paradigm and L&I. The five potential outcomes are:

- Physiologic stability.
- Physiologic maintenance.
- Residential integration.
- Community integration.
- Capacity to return to work.

Paradigm formulates a price for each plan that includes care management; estimated medical expenditures during the contract period to achieve the proposed outcome; and a risk coefficient cost, which is a cost attributed to the amount of risk Paradigm assumes based on the outcome they propose. L&I has reserved the right to decline proposed outcome plans. If this occurs, Paradigm bills in accordance with a specialized fee schedule for time they worked on the case.

Paradigm manages the case until the outcome is achieved for the agreed-upon price, unless the plan is terminated early for reasons listed in the contract, such as substantial, documented noncompliance by the injured worker that prevents Paradigm from medically managing the case.

As of November 2019, Paradigm has accepted 18 referrals for management of catastrophically injured workers.

Nurse case management referrals

Figure 1 shows referrals made by L&I to NCM firms in 2019, the number of referrals accepted by the firms, and the average cost for each firm's services. For firms under the hourly rate contract, NCMs have so far spent an average of one year on care management. For outcome-based firms, NCMs have spent from 15 months to 36 months on cases. There was no significant increase from 2017 to 2019 in cost per claim for NCM services unique to each firm and billing model.

Figure 1: NCM firm referrals and costs in 2019

External Firm	Referred	Accepted	Average NCM Costs	Ave. Cost to Assume Risk	Additional Costs Borne By
Stubbe	75	61	\$11,900	NA	L&I
Rainier	60	40	\$16,400	NA	L&I
Comagine	20	6	\$60,200	NA	L&I
Paradigm	34*	18	\$68,100 **\$14,000	***\$245,000	Paradigm

*L&I declined the proposed case rate on 16 cases and reassigned them to another firm if NCM services were still necessary.

** Refers to the average NCM cost to claim for work done by Paradigm on 11 declined cases over the initial 40 days. For the remaining five cases, Paradigm has not submitted bills.

***This number now excludes NCM costs, which has resulted in a lower average than in 2018².

L&I REFERRAL TEAM CLAIM MANAGEMENT

L&I’s catastrophic team, a dedicated internal team of experienced claim managers and occupational nurse consultants, handles catastrophic injury claims with the help of expanded technology systems that track and manage the claims.

Changes resulting from the pilot project

Prior to this pilot project, email notification of a catastrophic claim was common practice, with no way to monitor these claims other than the general systems in place for all claims. Like most other claims, catastrophic claims were assigned to claim managers (CMs) based on the worker’s address and the CM’s experience level. There was no way to take into account the unique needs of these seriously injured workers, and no tracking mechanism to help proactively manage the worker’s care or address care coordination, medications, and discharge planning. In addition, when a claim transferred to a different unit and CM, the ONC also changed, resulting in a loss of continuity. In addition, there were no specific standards for assigning catastrophic claims to NCMs.

Now, L&I uses a centralized system to track and proactively monitor catastrophic claims, and a catastrophic “flag” functions within the claim management system. The catastrophic team oversees and manages newly identified catastrophic claims, and the ONC and CM are notified of new claims at the same time. This allows the ONC to take immediate action and to ensure that coordination of expected length of hospital stay and discharge planning can occur in a timely manner. Upon initial

² Comprehensive Catastrophic Care Management Project 2018 Report to the Legislature (<http://www.lni.wa.gov/Main/AboutLNI/Legislature/PDFs/Reports/2018/CatastrophicCareManagementReport.pdf>)

assignment of the catastrophic claim, the ONC reviews the claim and assigns a nurse case manager to work directly with the injured worker in their community, if needed.

The catastrophic team is in frequent contact with NCM firms to discuss cases and address any issues as they arise. The team meets weekly to address claim issues or concerns. L&I continues to review nurse case management reports and functional assessments to ensure quality and timeliness. The agency continues to emphasize the required reporting on functional status to ensure timely and consistent receipt of information.

What difference have these changes made?

A recent case highlights the way continued care coordination mitigates potential barriers:

A young worker was involved in a motor vehicle accident and sustained significant multiple trauma injuries, primarily to his hips and legs. This worker was promptly assigned an NCM by the clinical team so that care coordination could begin immediately to assist with his transition from the hospital to his rural home. After several months, the worker continued to heal and the family felt they could provide care without the assistance of the nurse case manager.

Soon, the worker and his family began to feel overwhelmed. They reached out to the clinical team to request care coordination services be reinstated with the same NCM previously assigned. The clinical team recognized the positive effects of having this NCM assist with care coordination, as well as the potential barriers that could develop if the family remained overwhelmed. The NCM was reassigned to support this worker and his family throughout the remainder of the worker's recovery.

Catastrophic claim data

Figure 2 shows the catastrophic claims, by injury type, identified and referred to L&I's catastrophic team from October 2015 through November 2019 by calendar quarter.

Figure 2: Catastrophic referrals by primary injury type

Quarter	Major Burn	Spinal Cord Injury	Amputation	Traumatic Brain Injury	Multiple Trauma	Other	Total
4Q15	6	1	0	9	28	1	45
1Q16	3	5	2	8	14	4	36
2Q16	2	1	0	3	26	4	36
3Q16	5	1	1	7	17	6	37
4Q16	1	3	0	4	20	6	34
1Q17	0	1	1	1	13	3	19
2Q17	2	6	4	6	16	7	41
3Q17	2	1	2	4	20	3	32
4Q17	2	2	1	2	22	4	33
1Q18	0	1	0	8	16	6	31
2Q18	2	2	2	1	12	6	25
3Q18	1	1	0	4	13	3	22
4Q18*	1	1	1	1	9	3	16
1Q19	0	2	0	3	5	1	11
2Q19	1	2	0	2	6	0	11
3Q19	1	2	1	3	4	2	13
4Q19	1	0	0	1	2	0	4
Total	30	32	14	67	244	59	*447

This table does not account for unknown injury types, potentially resulting in a lower total for all catastrophic designations to date.

*Numbers have been updated to reflect catastrophic injuries occurring in December 2018 that were not captured in the 2018 report. Two claims have been captured in the overall number that are not reflected in this table.

L&I's clinical team carefully assesses new hospitalizations throughout Washington for catastrophic criteria. In 2019, the agency applied the findings of an internal pilot to this practice, prompting the clinical team to begin assigning a nurse case manager to all catastrophic cases for at least 90 days. The agency believes this will aid with care coordination and reduce worker disability.

Figure 3 shows the total number of catastrophic claims received by L&I in 2019, and those that have been assigned to an external NCM firm. In 2016, 55 percent of catastrophic claims received NCM services; in 2017 and 2018, 33 percent received these services. Since January of 2019, 100 percent (41 of 41) of catastrophic claims have received NCM services, showing L&I’s dedication to improving catastrophic care by increasing NCM services.

Figure 3: Catastrophic nurse case management assignment for January – November 2019

Number of catastrophic claims	41
Number of catastrophic claims assigned a NCM	41
Number of catastrophic claims not assigned a NCM	0

CATASTROPHIC CARE COORDINATION

L&I’s implementation of “best practices” in care coordination is well underway. Since the agency began mapping the various roles in care coordination throughout the care continuum and in different health care facilities, catastrophically injured workers are being identified sooner, which allows L&I to initiate best practice interventions more quickly. Reviewing each case helps identify service needs, which allows crucial resources such as nurse case management, Centers of Excellence, and activity coaching referrals to occur earlier for catastrophically injured workers. The catastrophic team continues to collect data at key intervals in order to measure improvements in areas such as claim notification and discharge planning.

L&I staff members met with social workers at Harborview Medical Center in 2017 and 2018 to discuss discharge planning. L&I developed a catastrophic injury pamphlet, “*L&I Workers’ Compensation, We’re Here for You, Information About Your Recovery Team*” (Appendix A), and distributed it to social workers, enabling them to more easily circulate information about workers’ compensation insurance claims.

Since completing a discharge planning gap analysis in 2017, L&I has continued working to:

- Provide a seamless transition from acute care to the recovery and community-based phase.
- Reduce emergency department visits after initial hospitalization
- Reduce hospital re-admissions.
- Improve worker satisfaction by reducing barriers to care.

L&I continues to work closely with the ONC field nurse team in all regions to establish contact with hospitalized workers in their areas. Using existing employees, the agency is able to assess worker needs and assign nurse case management services earlier. This has expedited both the care coordination process and discharge planning. Direct contact with workers and their medical providers has enabled L&I to make decisions that align with evidence-based best practices.

A broader application of lessons learned

The catastrophic program has prompted the Office of the Medical Director (OMD) to evaluate using NCM services throughout the agency. In 2019, OMD first began to analyze lessons learned about NCM services to evaluate and update the medical aid rules and fee schedule. This process will allow the agency to streamline the role of the nurse case manager in the industrial insurance system by clearly identifying and compensating for tasks that most positively affect a worker's ability to recover. By pinpointing the areas where nursing interventions have the greatest impact, OMD anticipates that potential barriers to worker recovery will be mediated or removed.

One of the major results of this project is the implementation of a clinical team consisting of a clinical nurse specialist, an associate medical director, four occupational nurse consultants, and a medical program specialist, in combination with a sophisticated reporting system in OHMS and a responsive team of regional nurses and health service coordinators. The clinical team reviews and assesses new hospitalizations throughout Washington on a weekly basis. The purpose of this is to provide front line medical review to identify catastrophic workers as soon as possible, and to quickly enlist specialty resources to expedite care.

Expanding its original purpose, the clinical team has adapted their processes to serve as an early notification system for non-catastrophic claims. This process has allowed the clinical team to identify and assist workers whose injuries do not meet catastrophic criteria, but require immediate attention. If assistance is necessary, the clinical team outlines their concerns and potential resources to the assigned ONC and claim manager. The clinical team will also take steps to gather additional medical documentation by utilizing a regional nurse in or near that worker's community. Additionally, if the injury is a burn or amputation, the clinical team will offer a referral to a Center of Excellence for evaluation and care coordination.

Since 2016, the evolution of the catastrophic program has yielded improvements to the NCM referral and assignment process even with claims that are not catastrophic. The clinical team has recognized that nurse case management early intervention is integral to identifying and overcoming barriers that arise throughout a claim's duration. These early interventions have a direct impact on a worker's chance of returning to work and preventing long-term disability.

CENTERS OF EXCELLENCE

One of supplemental benefits of this project has been the ability of the Centers of Excellence to aid workers regardless of catastrophic designation. The aim of Centers of Excellence (CoEs) is to assure continuity in care – especially long-term care, which requires coordination between an informed specialist and a community provider.

CoEs must meet high standards, including national recognition for leadership in research, training and practice. Center physician leaders must be board-certified in physical medicine and rehabilitation, and have both statewide and national recognition as leaders and experts in their relevant field (for example, publications, expert panel participations, faculty appointments, research

participation or quality improvement participation). A CoE must have the capacity to provide expert services by physicians, a multi-disciplinary team or other health care professionals. These service providers must be able to respond to the complex challenges of referrals and provide post consultation care coordination, planning, and services. Services may include tracking, program evaluation, outcomes review, and analysis.

CoEs commit to provide timely, coordinated access to patient-centered, appropriate team-based, multi-disciplinary services. These services focus on comprehensive assessment, expert analysis and evidence-based treatment for work-related injuries. The centers actively measure, monitor and adjust care to achieve key clinical targets such as return to work.

Expanding CoEs' scope and influence

L&I developed Centers of Excellence to assist catastrophically injured workers, and soon recognized that these services needed to be expanded to assist workers with burns and amputations that were not considered catastrophic. L&I and Harborview Medical Center have worked together to create a resource in Washington that is instrumental in providing care collaboration and specialty assistance to those affected by an industrial injury. The Center of Excellence for burn care was created in February 2017. As of November 2019, this center has provided care for 87 catastrophically and non-catastrophically injured workers. The Center of Excellence for amputee care, also at Harborview Medical Center, has provided care for 41 catastrophically and non-catastrophically injured workers as of November 2019.

Figure 4: Center of Excellence care types and frequency

Figure 4 illustrates how the care coordination efforts of the Centers of Excellence affect both catastrophic and non-catastrophic workers. The services these centers offer or connect workers with, are essential for those struggling with the major life changes these injuries can cause.

Center of Excellence	Non-Catastrophic Injuries	Catastrophic Injuries
Burns	73	14
Amputations	23	18*

*The number of catastrophic amputations shown in this table is higher than in Figure 2 because four amputations were classed as "multiple trauma" or "other" in Figure 2.

EVALUATION OF CATASTROPHIC CASE MANAGEMENT

The 2016 budget proviso directed L&I to conduct an evaluation of NCM services. Since 2016, L&I and the University of Washington have continued to work on a prospective study of catastrophic case management provided by the contracted firms to analyze the effect of NCM assignment for workers who have experienced catastrophic work-related injuries. Before developing the evaluation plan, L&I conducted a rigorous retrospective analysis of past cases that met the current case definition of a catastrophic claim to understand trends in return to work and disability among catastrophically injured individuals.

L&I is in the third year of this four-year study. Subject recruitment and enrollment was completed in October 2018. Data collection will continue until all subjects have accrued 18 months of follow-up time, with a projected end date of April 2020.

The study/evaluation includes three participant interviews at different points. Since November 2017, 101 subjects have participated in the baseline interview. Seventy-seven subjects have completed the six-month interview, 64 have completed the 12-month interview, and 45 have completed the 18-month interview.

The study, as outlined in L&I’s contract with the University of Washington, specifically aims to provide:

- A characterization of workers’ compensation claimants with catastrophic injuries.
- A characterization of interventions, including intensive nurse case management, non-intensive nurse case management, mental health services, opioid use, and usual care within the first 18 months after serious injury.
- An analysis by intervention type of claimants with catastrophic injuries. The analysis will look at the success of transitions between care settings, improvement in functional outcomes, return to work outcomes, degree of community integration, and patient and/or caregiver satisfaction.
- L&I’s per-patient direct cost of medical care and time loss compensation (wage replacement payments for lost work time) over the study period.
- A description of the types of complications and adverse events associated with catastrophically injured workers’ compensation claimants, and their prevalence, that occurred within the study period.

University of Washington preliminary findings

The study will continue to collect data until April 2020. The University of Washington’s research team has kept L&I up-to-date via regular submission of progress reports.

Figure 5 illustrates the number of respondents within the study who have returned to work as of the writing of this report.

Figure 5: University of Washington work status analysis

Questionnaire	Respondents	Return to Work	Percentage of Respondents
Average 39 Days/ Mean 31 Days Post-Injury	98	5	5%
6-Month	73	17	23%

The return to work information to date indicates a need for a robust care collaboration network that can incorporate the opportunity for vocational recovery services. This information will be instrumental in developing critical care collaboration interventions designed to assist workers at the earliest stages of recovery.

L&I looks forward to reviewing the University of Washington's complete findings in 2020.

Goals for 2020

L&I is committed to continuing to improve care for catastrophically injured workers and ensure that they receive the highest quality care and timely and effective claim resolution.

In 2020, L&I expects to make continued progress on the Comprehensive Catastrophic Care Management plan and meet the plan's following goals:

- L&I will extend the contracts with all four external NCM firms in order to ensure continued excellent management of care and improved outcomes for catastrophically injured workers. Firms will submit progress reports on case management processes and outcomes, and L&I will evaluate work products to ensure they meet the standards detailed in each individual NCM contract. L&I will make continuous improvements in NCM assignment, communication, and contracting as the department awaits the outcomes of the University of Washington (UW) study.
- In late 2018, L&I launched a pilot to determine the benefits of assigning NCM services to all catastrophic claims for the first 90 days. The results of the pilot prompted the catastrophic team to implement this action. The agency believes this will aide with care coordination and reduce worker disability. The clinical team will monitor the impact of this change through 2020.
- L&I will extend the contracts for both Centers of Excellence in order to safeguard the continuing care of severely injured workers within and outside the scope of the catastrophic injury program. The department will collaborate with these centers as needed to assist in providing exemplary services to these individuals. L&I will identify a future desired state for the Centers of Excellence, to include working to develop standards for additional Centers of Excellence that will assist in providing supplementary resources to workers with specialized needs.
- L&I's catastrophic team will continue to manage catastrophic claims to enhance injured workers' experiences and improve their overall care. L&I will continue to use its Occupational Health Management System (OHMS), a web-based computer system that provides front-end case-management tools, to review the medical resource needs of newly hospitalized workers throughout Washington on a weekly basis. Internal staff will work together as needed to modify and improve this system to meet the evolving needs of this project.
- L&I will integrate additional regional occupational nurse consultants (ONCs) into a more active role within the catastrophic team. These ONCs will help monitor catastrophic claims in their regions and provide direct support by finding specialists and facilities to aid in workers'

recovery. Regional ONCs will continue to have medical oversight over catastrophic claims, assist with care collaboration in their regions, and review claims for Center of Excellence referral criteria. In this capacity, ONCs will use OHMS to communicate with NCMs and health service coordinators on L&I coverage criteria.

- The catastrophic team will continue to authorize and coordinate obtaining durable medical equipment, as well as home and vehicle modification, as soon as possible when the need is recognized. This practice has led to workers returning home and beginning the crucial rehabilitation and reintegration phases of recovery more seamlessly than before the project took place.
- L&I will further implement oversight on agency use of NCM services. The catastrophic project has yielded a wealth of knowledge to improve assignment of care collaboration resources enterprise-wide. The agency will apply these lessons to help improve the application of nursing interventions to reduce disability within the industrial insurance system. The catastrophic team is currently working with their partners in Health Service Analysis (HSA) to apply this knowledge in improving the medical aid rules and fee schedule.
- Contracted NCMs and the UW study team will continue to evaluate injured workers enrolled in the prospective evaluation pilot project through 2020. L&I will use the regularly submitted progress reports of the UW research team to evaluate and update current processes, and pinpoint areas necessary for early nursing intervention.

Conclusion

Appropriate clinical input on workers' compensation claims is critical to ensure that injured workers receive timely, appropriate medical care and avoid unnecessary or harmful treatment. L&I is a national leader in health policies and strategies that guide workers to evidence-based care and keep our medical costs and cost increases below national trends.

By increasing care coordination, establishing a dedicated internal team of experienced staff, collaborating with experienced firms to manage care for catastrophically injured workers, establishing Centers of Excellence, and comparing worker outcomes achieved using these types of care, L&I is consistently improving outcomes for workers with catastrophic injuries.

L&I's 2019 achievements are the foundation for additional work in 2020 and beyond to reduce disability for injured workers by improving the medical care they receive.