

PRESIDENT'S MESSAGE

Rick Wickstrom, PT, DPT, CPE, CME

I listened to a recent AOPT podcast discussion between James Spencer, PT, DPT (Vice President of the APTA Academy of the Orthopaedic Physical Therapy) and Justin Moore, PT, DPT (Chief Executive Officer of the American Physical Therapy Association). A topic in their discussion was workforce impacts on physical therapy practice as a result of the COVID-19 Pandemic. Dr. Moore offered his perspective that physical therapy professionals must chase the demand for our services where people live, work, and breathe to promote early access, expand service opportunities, and improve payment policy. When I am in the APTA House of Delegates this July, I look forward to robust discussions among delegates about how to prioritize APTA and chapter resources to address PT workforce and payment policy challenges.

At the core of these challenges, we must consider how physical therapists are positioned in all practice settings to improve direct access and promote the value of a PT First model. This year, we celebrated the 50th anniversary of the Academy of Physical Therapy (AOPT). Many early leaders of AOPT came from the military practice setting where physical therapists have led with direct access privileges since the mid-1970s to order imaging, prescribe work restrictions, and administer anti-inflammatory medications to advance musculoskeletal health and participation. The training to prepare military physical therapists for direct access inspired advancements of PT education to a doctoral profession under APTA's Vision 20/20.

Unfortunately, the abundance of supporting evidence for direct access model in the military setting has been slow to transfer to other practice settings in the civilian sector that are reimbursed through a traditional insurance model. Further access barriers from organizational policy are perpetuated in the absence of state practice act regulatory barriers. For example, physical therapists need to assert our expertise to high school athletic associations that fail to authorize physical therapists to clear students for sports participation. In occupational health, physical therapists must play a greater role in employer-sponsored safety and workplace health programs. There are concerns about return on investment of workplace health promotion and wellness programs often lead with health biometric assessments directed by other practitioner types. Physical therapists offer unique expertise to evaluate and diagnose movement deficits to support education, activity clearance and triage to influence cost-effective follow-up care.

In the fall of 2023, APTA released a landmark report to communicate the average net benefit of physical therapist services in 8 health conditions that may be accessed at <https://www.valueofpt.com>. This report, *Economic Value of Physical Therapy in the United States*, synthesized evidence-based findings related to physical therapy interventions for 8 health conditions experienced by individuals across the lifespan. The primary focus on preventative

care in this report was on the value of physical therapy to prevent future falls among older adults. What was not modeled in this report is economic value from prevention and management of musculoskeletal health risks and disability when a physical therapist provides fitness and health risk assessments of employed populations before an episode of care is needed. Positioning the physical therapist to administer fitness and health risk assessments before an episode of care is essential to drive economic savings by the employer from reduced OSHA recordable injuries and disability (lost time) for personal or work-related health conditions.

This edition of OPTP includes a Member Spotlight on Scott Ege, MS, PT, and a perspective article by Scott about practical ways to demonstrate economic value in physical therapist-led prevention and early intervention programs that are funded through direct-to-employer contracts. Scott recently delivered an outstanding capstone presentation to earn his OHSIG Occupational Health Practitioner Certificate. He also served as a subject matter expert to review the OHP independent study monograph by Tillery et al that is titled, Functional Job Analysis and Employment Exams. We are blessed to have Scott available to serve as a mentor for future candidates enrolled in the final course to earn our OHP Certification: Facilitating Therapy Services for Total Worker Health®. Scott delivers an inspiring message and practical content to influence how to lead by example in direct-to-employer contracts. His approach offers many practical suggestions for how to drive the demand for our services with employer clients by making the PT First model for prevention and early intervention services in the work-place setting. Enjoy!



SCOTT EGE, MS, PT

Why did you become a Physical Therapist?

I felt inspired to help people through health promotion and management. While I was enrolled in pre-veterinary medicine at the University of Iowa, I received feedback during my volunteer experience at a local animal clinic that I should pursue a health career that leveraged my people skills. Not long after that I connected with Dave Nielsen, Chair of the PT Program at the University of Iowa, through a local non-profit organization who introduced me to the benefits of pursuing a career in physical therapy.

What is your current Occupational Health service focus?

My company contracts directly with employers to provide on-site early intervention programs that include OSHA first aid, ergonomics, job fitness-for-duty testing, and training/awareness programs. I've always had an entrepreneurial spirit. Back in 2005, I created a structured workplace stretching program called "Stretch It Out!". Today, the "SIO!" program is used by hundreds of employers throughout North America. I also developed a software program as a tool for occupational health practitioners to document, manage, and demonstrate the value of prevention and early intervention programs to employer clients.

What do you love most about your Occupational Health Practice?

I value my professional autonomy as a private practice owner of Ege WorkSmart Solutions, PC. I don't have a clinic. We are 100% onsite with all our employer clients. I also enjoy having a career path that does not require me to bill traditional insurance programs. Such programs often have payment policies or rules that discourage early access to physical therapy, waste administrative time, or undervalue the reimbursement for our professional services.

What frustrates you most about your practice environment?

The most frustrating aspect of my practice is the dysfunctional nature of the Workers' Compensation and Disability systems. These programs overly rely on other provider types for health management of musculoskeletal disorders. I have made it my mission to prevent claims from happening by effective prevention and early intervention that keeps employees working and healthy. The best injury to treat is the one that never happened!

How do you hope to position your practice in the next 5 years?

I would like to influence greater engagement by all workers to participate in movement screening and early intervention services from hire to retirement. There are too many workers who receive unnecessary medications, surgeries, and absence time from work that are not cost-effective. As physical therapists, we must chase this area of demand by educating all stakeholders of the economic and participation value with a PT First model of care that is centered around musculoskeletal health.

What regulatory or organizational changes are needed to promote Occupational Health Practice?

We need to promote early access to Physical Therapists as the treating practitioner of choice for musculoskeletal health and disability management in Workers Compensation and Personal Health benefits programs.

Scott Ege, PT, MS

The opportunity to provide direct-to-employer services outside a traditional insurance model has never been greater. There's currently a confluence of factors that employers cannot afford to ignore: Spiraling healthcare and disability costs (particularly with musculoskeletal conditions), workforce challenges (aging workforce, worker recruitment/retention, culture), lean operations (reducing waste, supply/demand dynamics, technologies), and corporate expectations of "zero injuries." In addition, Total Worker Health® initiatives continues to gain interest from employers with a focus on integrating a holistic model for improving workforce safety, health, and well-being.¹⁻⁴ Total Worker Health® is defined as policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness-prevention efforts to advance worker well-being.¹ Physical therapists with expertise as Occupational Health practitioners are uniquely positioned to assist employers in addressing these challenges as entry-point practitioners for activity participation, wellness, health, and disability determination the overall health of their workforce, as evidenced by APTA's position statement (HOD P08-22-12-14 [Position]).⁵

THE BURDEN OF MUSCULOSKELETAL INJURIES

Musculoskeletal disorders (MSD) are injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spinal discs. Other names for MSDs include "MSKs," soft tissue injuries, sprains and strains, cumulative trauma disorders, repetitive motion injuries, and overuse injuries. There are several different resources available that provide data specific to the frequency, severity, and cost of MSDs. Musculoskeletal disorders are often associated with higher costs to employers due to factors such as absenteeism, lost productivity, and increased health care, disability, and worker's compensation costs.⁶⁻⁹ Below are just a few statistics that demonstrate why these injuries weigh heavily on employers:

- According to the 2023 Liberty Mutual Workplace Safety Index (WSI), workplace injuries cost U.S. businesses more than \$1 billion per week. "Overexertion" is still identified as the number one cause of the most serious disabling injuries (21.9% contributing to \$13 billion in cost). Awkward postures contribute to 6.3% (\$3.35 billion).¹⁰
- Next to the common cold, the most common reason a person visits their doctor is for a musculoskeletal condition.¹¹
- Health care spending on musculoskeletal disorders in the United States reached \$380.9 billion.¹²
- Depending on the source, the total cost of a single "sprain and strain" injury (direct costs + indirect costs = total costs) can range from \$40k to >\$100k.¹³⁻¹⁵
- A 2020 study involving 2,000 employees conducted by Willis Towers Watson concluded that 68% of people with musculoskeletal issues say that their job has been a contributing factor to their condition and 33% said their employer was aware of their condition but did not provide adequate support.¹⁶
- One in two adults are affected by a musculoskeletal condition, costing an estimated \$213 billion annually for treatment.¹⁷
- Musculoskeletal conditions are the leading contributor to disability worldwide, with low back pain being the single leading cause of disability in 160 countries.¹⁸

Epidemiology studies have demonstrated that MSDs are multifactorial in nature, which is why employers often find it difficult to identify a specific “root cause” that created an injury.¹⁹ It’s widely known that MSDs typically develop over time.²⁰ Rarely are they the result of a single, one-time incident. Rather, they are cumulative in nature — resulting from repeated exposure of various risk factors over an extended period. The early warning signs of MSDs are usually present long before the employees experience a level of pain and/or loss of function that requires medical treatment beyond first aid interventions. Examples of these early warning signs commonly include reports of discomfort, achiness, soreness, stiffness, weakness, and intermittent tingling/numbness.⁶⁻⁹

Employers can no longer ignore, avoid, or dismiss the musculoskeletal health of their employees. Workplaces that promote good musculoskeletal health can play an important role in helping to alleviate the symptoms and prevent onset/recurrence. Offering occupational health services directly to employers is a proactive approach to enhancing workplace wellness and productivity. By integrating these services into the workplace, employers can promote employee health, prevent injuries, and facilitate faster recovery for those who do get injured. If a provider is considering making this move, it’s essential to prepare a solid plan outlining the services that will be offered, how the service will be effectively delivered within the workplace, and what methods will be utilized to communicate value to employer clients.

A Vice President of a large automotive plant once shared a statement that sheds light on value from a business standpoint: “Our goal is to build a product at the lowest cost and sell it at a premium price. Anything you do that gets in the way of our goal, I’ll fire you for.” This might sound harsh, but the reality is businesses that don’t make a profit simply won’t remain in business. If the ultimate goal is to achieve a long-term partnership with employers, then it’s imperative that providers demonstrate the value of their services. W.E Deming got it right back in the 1980s: “In God we trust, all others bring data.”²¹

THE WORKSITE EARLY INTERVENTION MODEL

Early Intervention (“EI”) programs are an effective strategy for mitigating MSDs, while also promoting the overall musculoskeletal health of a workforce. Early interventions (or Industrial Athlete programs) have actually been around for a few decades. Early intervention is a proactive strategy that addresses the early warning signs of MSDs, identifies potential root causes of discomfort, and prevents symptoms from progressing into an injury using OSHA-approved first aid interventions.^{6,22-29} It is imperative that EI providers have a clear understanding of OSHA’s definitions of a recordable injury compared to non-recordable first-aid treatments. For the purposes of this article, examples of OSHA-approved first aid interventions includes: hold/cold therapy, use of non-ridged support (elastic bandages, wraps, back belts, etc), soft tissue massage, kinesiology taping, and exercises included in a wellness program or daily stretching routine.²⁹

Early intervention programs promote both recognition and timely response to early symptoms of MSDs when they first appear for an employee. The EI process empowers employees to become advocates for safety and promotes engagement in the prevention process. The EI providers spend one-on-one time with employees to help identify ergonomic improvements, promote awareness of posture and body mechanics, and implement effective recovery strategies (**Figure 1**). Follow-up “contacts” occur on a weekly

Figure 1. Example of Job Coaching for Use of an Inline Power Tool Using Neutral Wrist Positioning



or bi-weekly basis to reassess the employee’s symptoms and monitor recommended changes to the job. This spares the worker unnecessary lost time or suffering and can provide cost savings for the employer by preventing OSHA recordable incidents.

Previous articles regarding EI programing, OSHA Record-keeping requirements, Interpretation of First Aid interventions, and the Role of Occupational Health Specialists have been shared by various OHSIG Newsletter contributors.^{6,22,27} Additional guidance regarding the Role of Onsite Occupational Health providers for EI programming can be accessed through OHSIG’s Occupational Health Independent Study Courses (Entry Point Care for Workers with Job Participation Barriers, Independent Study Course 32.4.3).²⁶

DEMONSTRATING MEANINGFUL EI METRICS TO EMPLOYERS

As previously stated, Occupational Health providers must demonstrate the value of the EI services they provide to their employer clients. Several years ago, this author participated in a collective “think tank” that was comprised of experienced therapists who provided EI services onsite with employers. Below is a summary of the themes that arose during these discussions as it related to:

- Methods used to document “EI contacts” varied all over the board. Most providers used a standard paper-based intake form. Others summarized the “highlights” of each encounter using Word or Excel-based file formats, which was shared with their employer contact (usually a Safety Manager and/or Human Resources representative).
- Traditional “clinic-based” electronic medical records (EMRs) were cumbersome, time consuming, and costly. Most of the data entry fields really didn’t apply within the context of an early intervention contact.
- Providers focused their performance results using lagging/historical data metrics. This included: OSHA Total Recordable Injury Rates “TRIR”, Total Lost Workday Rate “LWR,” Days Away/Restricted/Transferred Rate “DART,” Loss Run Reports,

Worker's Compensation Costs, and Insurance Premium Costs/ trends.

- The consensus was that employer clients were simply looking for a “win,” which was most often defined as preventing an “ache” from becoming an OSHA recordable event.

Additionally, several discussions occurred with Human Resource, Safety, Supervisors, and Management professionals regarding their perceived “value” of onsite EI services. While there was consensus regarding the goal of reducing OSHA Recordable Injuries and injury rates (TRIR, LWR, DART, etc), there were several other important takeaways they identified:

- Having a neutral third party available to listen, observe, and provide guidance is very reassuring to the employee. It sends a powerful message to the employee that “we care” about their health and well-being as their employer.
- There was limited data to extrapolate safety strategies when the employer achieved lower injury rates, particularly with musculoskeletal symptoms. Use of the “EI Case List” became a more meaningful source of data to them, particularly because they had little to no OSHA recordable injuries. This data could be used to drive Key Performance Indicators (KPIs) that fueled Leading Indicators for measuring safety performance.³⁰⁻³²
- Most employees who complained of musculoskeletal “pain” were so far down the road of injury progression that the only choice was to send them out for formal medical evaluation and treatment. The ability to engage workers at a point of “achiness” or “soreness” was limited or almost nonexistent.
- They commented that their “plates were full” with compliance procedures, managing environmental issues, and completed other regulatory requirements. While they were concerned about every employee who was being seen by the EI provider, they really just needed to know who were the “priority” cases that needed their focus/attention.
- It was important to identify “trends” regarding “aches and pains” in the different areas of their facilities. They wanted to know more about the “case mix”: older vs younger workers, male vs female, new hire vs long-term employees, body areas involved (shoulder, hand, back, knee, etc), and activity by department or job.
- Engagement was a key indicator for them. How do we know if we have a “healthy engagement” of our people in the EI program? How do we compare to other employers?
- Awareness was another important activity to measure. Are our employees becoming more aware of how they move, their body mechanics, identifying ergonomic opportunities, etc?
- None of the HR and Safety professionals had information regarding their group health spend for musculoskeletal conditions. They were surprised to hear that musculoskeletal conditions are typically in the top three spend categories of healthcare for employers, if not the top category. Their focus was primarily on reducing work-related/OSHA-recordable injuries. They hadn't realized the impact that EI had on reducing costs of non-occupational or “personal” types of injury cases.

After considering all of these points as “data elements,” it was clear that from a customer satisfaction and business sustainability standpoint, a systematic process needed to be developed to streamline the management of EI cases and also provide

meaningful reports based on EI activity to employer clients. Thus, a cloud-based EI case management system was developed. The system easily generates a variety of reports that provide employers with vital information to drive their health and safety efforts. Without an EI program and related data, employers would have limited means of gaining insight and access to the musculoskeletal health of their workforce. The following is a short summary of key metrics that demonstrates value to employers:

1. Identify the total cost of an MSD injury for your employer client.

One of the primary benefits of an EI program for the employer is that musculoskeletal symptoms can be managed using OSHA-approved first aid interventions, thus averting a potential OSHA recordable event or disability. Without the EI program, most employers would eventually direct their employees to seek formal medical care from a physician (ie, urgent care clinic, occupational health clinic, etc). Depending on the assessment and treatment, the case could potentially become both an OSHA-recordable and a worker's compensation claim, which leads to incurring direct & indirect costs.

It's imperative that employers determine the total cost of a single MSD to their organization. From a provider perspective, demonstrating the ROI of any intervention or service is essentially impossible without knowing the cost of a single MSD to an employer client. The total cost includes both direct and indirect costs. Take it a step further by factoring in the employer's profit margin (ie, how much additional product the employer has to sell to cover the cost of one MSD). OSHA provides an online calculator that employers can use to estimate the cost of an illness or injury (<https://www.osha.gov/safetypays/estimator>).¹⁴ However, using the employer's actual cost is typically more meaningful. An example of using the employer's cost of an MSD to calculate ROI of the early intervention program is provided in the next section.

2. Provide “EI Activity” Summary Reports.

For definition purposes, an “EI Case” is created when an employee enters the EI program. Each encounter with the employee participating in an EI program is considered a “Contact.” It is important that the EI service provider establishes a process that captures several key data elements associated with both EI Cases and Contacts. This information can then be used to create a “Weekly EI Activity” report for the employer. Providing activity information of this nature to the employer facilitates communication of EI case activity and also prompts the employer to act on recommendations specific to a particular case (ie, job/task rotation, ergonomics, etc).

Table 1 provides a summary of possible data points to collect during a typical EI encounter. Most employers prefer this information to be shared utilizing an Excel-file format, as this allows for the ability to extract and use the data as it best fits the needs of the organization.

It is also important to provide additional reporting that summarizes EI activity over a period of time (quarterly, bi-annually, annually). These reports help an employer identify trends, patterns, and provide predictive analytics regarding the health and safety of their workforce. Information of this nature can also assist an employer to better understand underlying causes and implement preventive measures that focus on reducing injury risk, as well as identify opportunities for promoting the musculoskeletal health of their workforce.

Table 1. Weekly EI Encounter Information

Data Point	General Description
1. Case Demographics	Employee Name, Date of Birth, Date of Hire, Department, Job Tenure, Shift, Supervisor, and Work Status (regular employee vs temporary employee)
2. Case Information	Encounter Date, Onset Date, Type of Encounter (new, follow-up, discharge), Frequency (weekly, bi-weekly, monthly), and Time Spent (15 min, 30 min, 45 min, 60 min)
3. Symptom Information	Includes symptom status (better, worse, same) and Reported pain level (1 – 10 scale)
4. Symptom Onset Lag Time	The time frame that occurred between the onset of the employee's symptoms and when the employee first presented in the EI program (i.e. scale of 0-2 weeks, 2 – 6 weeks, 6 weeks – 6 months, and >6 months)
5. Case Concern	The level of concern by the EI provider regarding the case status is identified as Low (green), Moderate (yellow), and High (red). Safety managers are familiar with this type of color-coding, as it reflects a level of "risk" regarding the case becoming potentially OSHA recordable
6. Case Type -Personal -Work-Related -Potentially Work-Related	Refers to one of three categories: a. Personal ("P"): the employee has clearly identified that the symptoms were the result of something outside of work. b. Work-Related ("WR"): the employer has informed us that the case has already been determined to be work-related/OSHA-recordable. c. Potentially Work-Related ("PWR"): basically, this includes any case that does not fit the other two case types.
7. Injury Information	Examples include: a. Type of Injury: Sprain/Strain, Contusion, Burn, Laceration, Other b. Injury Mechanism: Slip/Trip/Fall, Struck By/Against, Awkward Posture, Static Posture, Excessive Force, Repetitive Motion, Vibration, Contact Stress, or None Reported. c. Body Part(s) involved.
8. Intervention Information	This is essentially selecting from a list of various OSHA first-aid interventions that are being utilized to address the employee's symptoms (job coaching, postural reminders, kinesiotape, postural stretching, OTC medications, soft splints, heat/ice, soft tissue massage).

An example of an annual summary of EI activity for an employer is illustrated in **Figure 2**. In this example, assume the employer has a workforce population of 300 employees. The data captured for this summary includes:

1. Total Number of New Cases/month
2. Total Number of Cases Resolved/month
3. Total Number of Cases Unresolved/month
4. Total Number of Employee Contacts
5. Number of Cases that Converted to OSHA Recordability

The total number of new cases (54) reflects a strong level of employee engagement (20% of the workforce). Of the 54 cases, 51 were totally resolved, reflecting a 94% resolution rate. A total of 931 "contacts" occurred during the 12-month period, reflecting an average of 17 "contacts/case." This figure could be evaluated further to better understand the specific factors that may be attributed to a higher number of contacts (ie, symptom severity when entering the EI program, symptom onset lag time, worker age, worker tenure, nature of the job, etc). And finally, a conversion percentage of cases that became OSHA recordable during the course of EI. Further analysis of that converted to OSHA recordability, as well as those that remained "first aid only" cases can provide crucial insight into the factors that contributed to each of these two categories.

3. Ergonomic Task Activity

Safety professionals are often tasked with auditing and generating reports regarding their ergonomic-related activities. The data from these reports can be utilized to drive safety initiatives specific to injury prevention efforts. Ergonomic interventions are commonly generated during the course of care for an EI case. Early intervention providers are often tasked with being responsible for monitoring the status of the different ergonomic interventions that were recommended. For the purposes of this article, these interventions will be labeled "Ergo Tasks."

The EI provider can create a summary report to the employer that aggregates the collective "ergo tasks" created on a monthly, quarterly, or annual basis. This also serves as a tracking system to monitor ergo-related recommendations with EI cases, identifying whether recommendations were completed, remain only, or perhaps were abandoned. **Figure 3** provides an example of a 12-month summary of Ergo Tasks for an employer with a workforce of 150 employees.

Controlling exposures to hazards in the workplace is vital to protecting workers. Categorizing the ergo interventions according to NIOSH's Hierarchy of Controls (Engineering, Administrative, PPE) provides the employer insight regarding both the types of controls being implemented and the effectiveness of those controls.³³ This becomes a bonus for the safety manager, as many ergo-related improvements occur naturally during the course of EI

Figure 2. Annual EI Case Summary

Month	Total New Cases	Total Resolved	Total nresolved	Total Employee Contacts	Converted to OSHA Recordability
Jan-23	4	4	0	134	0
Feb-23	4	4	0	80	0
Mar-23	2	2	0	40	0
Apr-23	6	6	0	62	0
May-23	6	6	0	96	0
Jun-23	5	5	0	30	0
Jul-23	6	6	0	106	0
Aug-23	10	9	1	160	1
Sep-23	2	2	0	52	0
Oct-23	2	2	0	88	0
Nov-23	3	2	1	48	0
Dec-23	4	3	1	35	0
Total	54	51 (94%)	3	931	1 (2%)

that lower worker exposures and reduce risk of illness or injury. So essentially, ergo activity is occurring every week - - not just based on targeted risk assessments, audits, surveys, etc. It's a powerful statistic to share with an employer client that 170 ergo tasks were opened during the course of EI and that all (100%) of those tasks were completed. An example summary of ergo activity specific to Administrative Controls is provided in **Figure 4**.

4. Quarterly/Annual Summary Reporting

Employers prefer to see their data summarized into meaningful categories. They use the data derived from an EI program to establish and monitor Key Performance Indicators (KPI's) specific to their health and safety efforts. For example, manufacturing companies may create "Heat Maps" of their production areas according to levels of EI activity, which can provide insights regarding other factors to evaluation (ie, ergonomic risk, employee awareness training, etc). Another category employers find beneficial is a summary of the body areas that are seen and treated in their EI program. This data can provide the employer with greater insights from a musculoskeletal standpoint, helping to target interventions such as a workplace stretching program. Here are some examples of metrics that this author uses for employer clients:

A. Annual EI Activity Summary & Cost Avoidance

This report includes data that is aggregated from all of the EI Cases incurred during the course of 12 months. Included in the summary are many of the data points identified in **Table 1**, as well as additional calculations specific to the Average Days in EI, Min/Max days in EI, Number of Cases Resolved, Number of Cases that were Referred Out for further medical assessment, Resolution Rate, Ergo Tasks Opened & Completed, and a Cost Avoidance estimate.

Figure 3. Ergo Task Activity

Month	Tasks Opened	Tasks Completed	Tasks Uncompleted
Jan-23	17	17	0
Feb-23	13	13	0
Mar-23	9	9	0
Apr-23	24	24	0
May-23	22	22	0
Jun-23	19	19	0
Jul-23	16	16	0
Aug-23	39	39	0
Sep-23	5	5	0
Oct-23	10	10	0
Nov-23	7	7	0
Dec-23	16	16	0
Total	197	197 (100%)	0

An annual summary of EI activity for an employer client is demonstrated in **Figure 5**. In this scenario, assume the employer has a workforce size of 400 employees and an average total cost/

Figure 4. Ergo Activity Summary

Control Type	Owner	Group/Label	Total Tasks	Resolved	Outstanding	Abandoned
Administrative			170	170 (100%)	0	0
	Employee		104	104	0	0
		Workstation Design	3	3	0	0
		Tasks in primary work zone	3	3	0	0
		Work Technique	98	98	0	0
		Alternate hands to complete tasks	3	3	0	0
		Change work postures as needed	6	6	0	0
		Job/task rotation	6	6	0	0
		Keep loads in power zone	14	14	0	0
		Stretching	69	69	0	0
		Other	1	1	0	0
		Other	1	1	0	0
		MMH (Lift/Carry/Push/Pull)	2	2	0	0
		Place loads in power zone	2	2	0	0

Figure 5. Annual Early Intervention Case Summary

Summary Stats:	PWR	Personal	Combined
Total Cases	60	9	69
Total Contacts	649	355	1004
Symptom Lag Time	< 2.6	< 3.6	< 2.9
Avg. Days in EI	70	32	51
Min. Days in EI	7	6	6
Max. Days in EI	308	55	308
Resolved	55	8	63
Referred Out	1	1	2
Remain Open	5	1	6
Resolution Rate	92%	89%	91%
Tasks Opened	167	22	189
Tasks Completed	165 (99%)	22 (100%)	187 (99%)
Cost Avoidance Estimate	15 cases	3 cases	18 cases
	(\$1,125,000.00)	\$225,000.00	(\$1,350,000.00)

or treatment. A total of 189 “ergo tasks” were generated, of which 187 were completed (99%). And finally, if the EI program did not exist, an estimated 25% of those employees would most likely have sought or been referred to outside medical care. Factoring in this employer’s total cost of an MSD at \$75k, their cost avoidance of just the potentially work-related cases is estimated at \$1.1M. Factoring in the personal cases, a total cost avoidance is estimated at \$1.4M. Preventing just 1 MSD more than paid for the EI program, or an estimated ROI of 2,333%. In addition, one could make the argument that without EI, the employer could have potentially incurred an additional 15 OSHA recordables (25% of the PWR cases).

MSD of \$75k. The cost of the EI program to the employer was \$60k. Early intervention cases were categorized as either “Possible Work-Related” (PWR) or “Personal” in nature. Zero cases that entered the EI program as OSHA-recordable and zero cases converted to OSHA recordability during the course of EI.

In this example, just under 20% of the workforce participate in the EI program during a 12-month period. This percentage reflects a level of employee engagement that is considered positive in the eyes of the author. Employees are generally reporting their symptoms early, most enter the EI program within 3 weeks of symptom onset. Of the 69 cases, 91% were resolved “in-house” and did not require referral for outside medical evaluation and/

B. Comparison Reports

Creating reports that compare an employer’s EI activity performance against industry standards (or “all other clients”) provides significant insights for the employer client regarding best practices. These “benchmarking” reports help an employer to identify areas where safety measures may be lacking or where improvements can be made, create performance goals/leading indicators, reduce risks, and ensure compliance. Below are examples of KPIs that can be used in creating comparison/benchmark to help an employer measure and drive their efforts around awareness, early reporting, and employee engagement.

Examples of Comparison Reporting

Key Performance Indicator (“KPI”)	Definition
1. Symptom Onset Lag Time (“SOLT”) Scale: <ul style="list-style-type: none"> • 0-2 weeks • 2 – 6 weeks • 6 weeks – 6 months • >6 months) 	SOLT is a key metric to monitor within an EI program. It’s the time frame that occurred between the onset of the employee’s symptoms and when the employee first presented in the EI program. This metric can be used to demonstrate employee engagement in the EI program, as well as awareness regarding symptoms (“ache” vs “pain”).
1. Days in EI	Compare the Average, Minimum and Maximum days in EI. This gives the EI provider and the employer greater insight regarding the factors that may extend an employee’s participation in the EI program as well as those factors that lead to a quicker resolution.
2. Case Severity	Includes the level of concern when cases initially enter the EI program (High/Red, Moderate/Yellow, Low/Green). The goal is to promote early reporting of symptoms that present with a Low/Moderate level of concern/severity.

Symptom Lag Time (Company vs All Others)

PWR: Potentially Work-related Cases Only

	Company PWR*	All Others PWR
Symptom Lag Time	< 2.7 (+138%)	< 2
Avg. Days in EI	70 (-77%)	91
Min. Days in EI	7 (+175%)	4
Max. Days in EI	308 (-83%)	371

Average Days in EI by Onset Nature: Company vs All Others

PWR: Potentially Work-related Cases Only

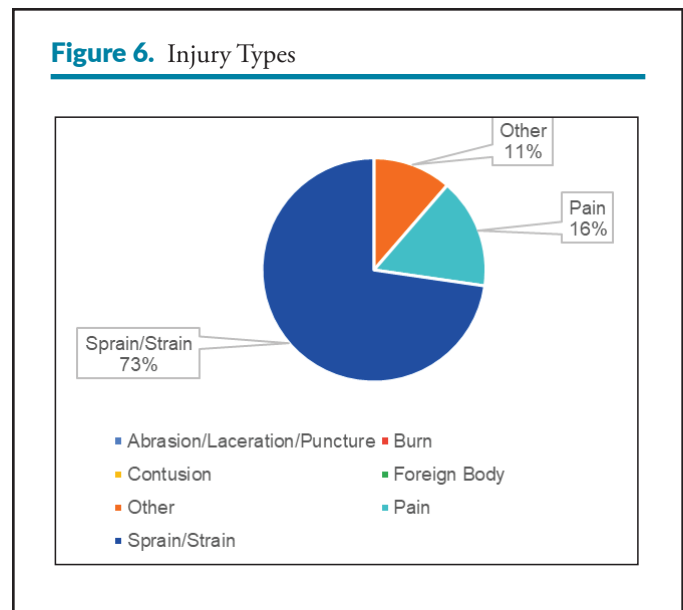
Onset Nature	Company PWR # Days	All Others PWR # Days
0-2 Weeks	61	73
1 Year+	47	73
2-6 Weeks	77	73
6 Weeks-6 Months	97	104

Recommendations: Promote employee early symptom reporting; Increase awareness of the EI program (Supervisors, Leads, Workers); Cultural shift from “pain” to “discomfort” as warning signs of MSDs; Initiate proactive measures that promote musculoskeletal health (i.e. movement screens, new hire/on-boarding, ergonomic risk assessments, etc.).

C. Graphs and Charts

Providers bring value to the employer when their EI data are summarized in simple formats. Pie and bar charts provide the ability to visually represent data in a clear and intuitive manner. The following are examples of metrics that employers can utilize to not only monitor the “musculoskeletal activity” of their workforce, but also to develop additional injury prevention and workforce wellness strategies that promote worker health.

- 1. Injury Type:** This information is derived from individual case entries. “Sprain/Strain” is often the most frequent type of injury, which helps demonstrate the importance of the EI program as a cornerstone of their health & safety efforts. **Figure 6** illustrates how “injury types” can be displayed.



- 2. Injury Mechanism:** This data provides an overview of the various risk factors that are associated with EI case activity. Understanding the risk factors provides important insight for conducting risk assessments, awareness training, and ultimately risk reduction strategies. **Figure 7** illustrates how “injury mechanism” can be displayed.
- 3. Activity By Department or Job:** Associating EI cases with specific jobs and/or department areas allows the employer to generate “heat maps” that can be used to target their prevention efforts. Also, monitoring this type of activity provides insight regarding employee engagement. It can reveal the need for training of supervisors and/or leads to increase their awareness of promoting early reporting or affirms the efforts a supervisor had made regarding injury prevention in their areas of responsibility.
- 4. Activity By Body Part:** Often times data around the body parts involved with EI cases validates what the employer already suspected. However, there are times when the employer is surprised to see an uptick in activity with certain body areas. For instance, if a warehouse environment increased the workload from 40 hours/week to 50 hours/week, it may explain why there are more cases involving lower extremity and back issues. **Figure 8** illustrates how “body part” activity can be displayed.

Figure 7. Injury Mechanism

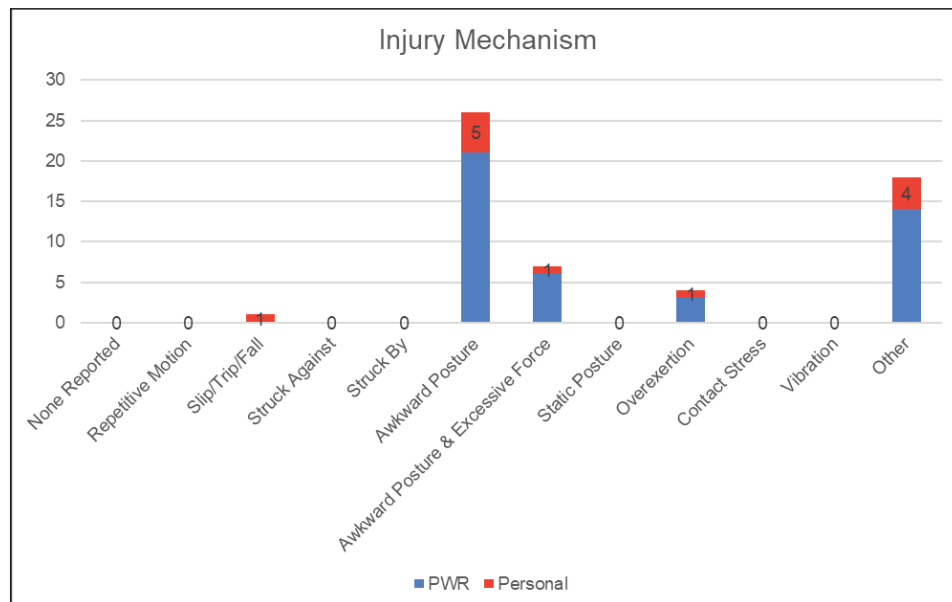
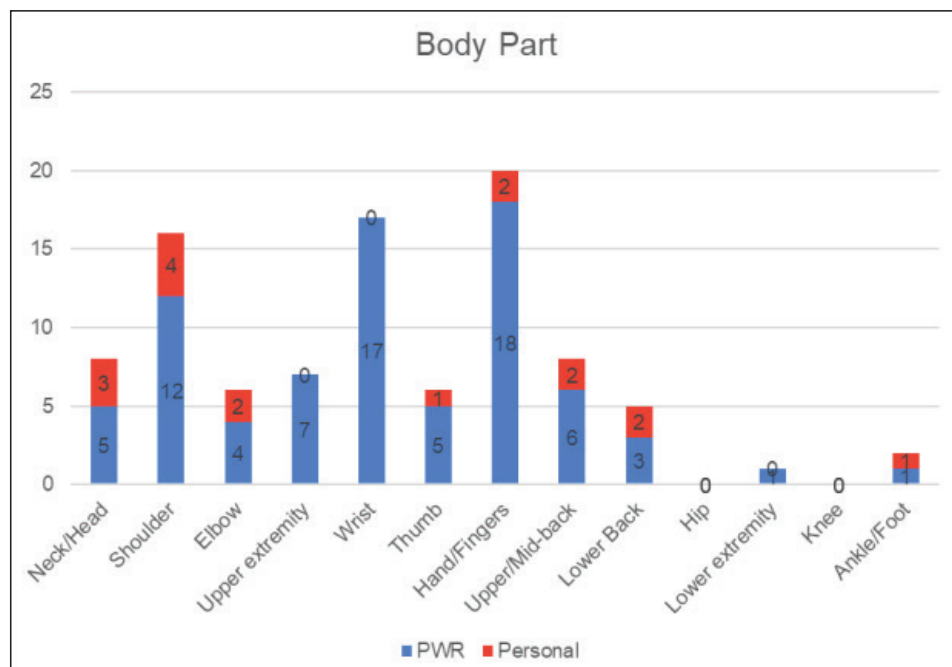


Figure 8. Body Part



IN SUMMARY

The burden of MSD injuries continues to be a challenge for employers.⁷⁻¹⁰ Opportunities continue to exist for physical therapists to engage with direct-to-employer services to reduce injuries and promote the overall health of an employer’s workforce. OHSIG’s Occupational Health Practitioner certification program is an excellent platform that provides a strong, evidence-based

foundation for developing and growing employer-based services.

It all begins and ends with the employer and the employee. Early intervention providers must use processes that effectively manage EI cases and prove results. If early symptoms are managed properly “in house” using OSHA approved first aid interventions, then the outcome is a win for the employer, the employee, and the EI service provider. Collecting data and generating meaningful reports derived from an EI program provides employers access to information they would not otherwise may not exist.

It’s imperative that Occupational Health providers strive to not only deliver high-quality services to their employer clients, but also demonstrate the value of those services through data. If we fail to do so, we deserve to be fired.

REFERENCES

1. Chari R, Chang C-C, Sauter SL, et al. Expanding the paradigm of occupational safety and health. *J Occup Environ Med.* 2018;60(7):589-593. doi:10.1097/jom.0000000000001330.
2. NIOSH. Fundamentals of Total Worker Health® approaches: Essential elements for advancing worker safety, health and well-being. DHHS (NIOSH) Publication No. 2017-112. December 2016. Doi:10.26616/nioshpub2017112.
3. Centers for Disease Control and Prevention. Workplace health model update. Accessed April 24, 2024. <https://www.cdc.gov/niOSH/twh/default.html>
4. Moloczniak, J. Getting started with Total Worker Health. *Professional Safety*, 2024; 69(1), 46-47.
5. American Physical Therapy Association. Access to physical therapists as entry-point practitioners for activity participa-

- tion, wellness, health, and disability determination HOD P08-22-12-14 [Position]; <https://www.cdc.gov/niosh/topics/ergonomics/default.html>
6. McMenamin P, Wickstrom R, Blickenstaff C, Bagley J, Johnson C, Jones K, Newquist D, Paddock J. Current concepts in occupational health: Role of Physical Therapists in Occupational Health. *Orthop Phys Ther Practice*. 2021;33(1):43-48.
 7. Center for Disease Control and Prevention. NIOSH. Musculoskeletal Health Program. Accessed April 24, 2024. <https://www.cdc.gov/niosh/programs/msd/default.html>
 8. Center for Disease Control and Prevention. NIOSH. Ergonomics and Musculoskeletal Disorders. Accessed April 24, 2024. <https://www.cdc.gov/niosh/topics/ergonomics/default.html>
 9. Occupational Health & Safety (OHS). The Relationship between MSDs and the Workplace. Accessed April 24, 2024. <https://ohsonline.com/articles/2020/02/13/the-relationship-between-msds-and-the-workplace.aspx>
 10. Liberty Mutual Insurance. 2023 Liberty Mutual Insurance Workplace Safety Index. Accessed April 24, 2024. <https://business.libertymutual.com/insights/2023-workplace-safety-index/>
 11. Workplace Wellness Trends 2019; Accessed Feb 22, 2022. www.ifebp.org/research.
 12. Dieleman JL, Cao J, Chapin A, et al.. US health care spending by payer and health condition, 1996-2016. *JAMA*. 2020;323(9):863-884. doi: 10.1001/jama.2020.0734
 13. National Safety Council, 2021; Workers Compensation Costs. Accessed April 24, 2024. <https://injuryfacts.nsc.org/work/costs/workers-compensation-costs/>
 14. US Department of Labor, Estimated Costs of Occupational Injuries and Illnesses and Estimated Impact on a Company's Profitability Worksheet, OSHA Safety Pays Program, Accessed April 24, 2024. <https://www.osha.gov/safetypays/estimator>
 15. US Bureau of Labor and Statistics. Occupational Injuries and illnesses resulting in musculoskeletal disorders (MSDs). <https://www.bls.gov/iif/factsheets/msds.htm>
 16. Willis Towers Watson, 2020. <https://www.personneltoday.com/hr/two-thirds-of-msd-sufferers-say-work-is-a-contributing-factor/>
 17. The Burden of Musculoskeletal Diseases in the United States: Prevalence, Societal and Economics Costs. 3rd ed. United States Bone and Joint Initiative, 2014
 18. CDC; NIOSH; Productive Aging and Work: Data and Statistics. <https://www.cdc.gov/niosh>.
 19. Bernard, 1997; Buckle & Devereux, 1999; Punnett & Wegman, 2004; Nunes, 2009a
 20. Centers for Disease Control and Prevention: NIOSH/Ergonomics and Musculoskeletal Disorders. <https://www.cdc.gov/niosh/topics/ergonomics/default.html>. Accessed February 22, 2022.
 21. W. Edwards Demming; The Deming Management Method (1986)
 22. Prall J, Ross M. On-Site Injury Triage by a Physical Therapist in an Industrial Setting: A Case Study; *Orthopaedic Practice*. 2022;34(3).
 23. Cecil R, Ross M. Effective worksite strategies and interventions to increase physical activity in sedentary workforce populations: the role of physical therapists. *Orthopaedic Physical Therapy Practice*. 2018;29(1): 56-62.
 24. Prall J, Ross M. The management of work-related musculoskeletal injuries in occupational health setting: the role of the physical therapist. *J Exerc Rehabil*. 2019;15(2):193-199. doi:10.12965/jer.1836636.318
 25. Keller M. Early Intervention for Musculoskeletal Injuries Is a Must. Is Your Ergonomics Program Doing Just That? *Risk & Insurance*. April 27, 2021.
 26. Academy of Orthopaedic Physical Therapy, APTA; 32.4 - Bridging the Gap Between the Workplace and Therapy Clinic, 2022.
 27. Kean M, Blickenstaff: Perspectives from Occupational Health and Safety Management of the Value of Work-Site Physical Therapy. *Orthopaedic Physical Therapy Practice*. 2022;34(1).
 28. Klose J, Helmsie A, Ross M, Gaul J: Entry Point Care for Workers with Job Participation Barriers Independent Study Course 32.4.3, Academy of Orthopaedic Physical Therapy, APTA, 2022.
 29. U.S. Department of Labor, OSHA Record Keeping Guidelines 29[B]1904.7, accessed April 24, 2024. <https://www.osha.gov/laws-regs/regulations/standardnumber/1904/1904.7>
 30. Middlesworth M: A Short Guide to Leading and Lagging Indicators of Safety Performance. Accessed April 24, 2024. <https://ergo-plus.com/leading-lagging-indicators-safety-preformance/>
 31. U.S. Department of Labor, OSHA: Using Leading Indicators to Improve Safety and Health Outcomes; Accessed April 24, 2024. <https://www.osha.gov/leading-indicators>
 32. Velocity EHS Blog: Using Leading Indicators to Improve Safety Management; March 24, 2022; accessed April 24, 2024. <https://www.ehs.com/2022/03/using-leading-indicators-to-improve-safety-management/>
 33. Centers for Disease Control and Prevention: NIOSH Hierarchy of Controls; accessed April 22, 2024. <https://www.cdc.gov/niosh/topics/hierarchy/default.html>

Need an OHP Jumpstart for Direct to Employer Contracts?

Reimbursement, Access, Authorization and Patient Advocacy are issues that restrict physical and occupational therapists from practicing at their full scope of expertise. PTs/OTs on social media platforms are wondering what path would make a difference for their patients and careers. The Occupational Health Practitioner (OHP) Certification was created exactly for this reason.

Expanding your skillset with OHP Certification will liberate your practice from traditional insurance headaches with a plethora of new tools, such as: Functional Job Analysis, Job Fitness Exams, Job Coaching, Early Intervention, Workplace Wellness, and Work Rehab to advance worker participation and well-being from hire to retire.

OHP Certification includes mentorship to foster delivery of D2E therapy services that focus on Total Worker Health. Break free from the post-injury episodes of care. Prevent injuries, make employee lives better, and reignite your own passion as a health professional in a financially stable environment. To request more information, email: orthoisc@ortho.org.