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Workplace Injuries in Amazon's Empire



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Executive Summary

Over the past two decades, Amazon has built a massive eCommerce empire that has transformed the way that many products get from factories to our living rooms. The company has established a massive logistics network that is capable of getting products from our computer screens to our front doors in two days, one day or even an afternoon, setting a new standard for the eCommerce industry.

But as Amazon sets the standard for delivery and fulfillment in the eCommerce industry, it also undeniably sets the standards for employment practices and working conditions in the industry. That is alarming news for the millions of workers in the warehouse and logistics industry. Inside Amazon’s fulfillment centers, delivery stations and other warehousing operations, tens of thousands of workers are paying for the cost of free two-day shipping with their bodies.

While journalistic reports of unsafe working conditions at Amazon’s warehouses have been widely published in recent years, some of the most troubling accounts of Amazon’s health and safety practices don’t come from whistleblowers or workers; these troubling accounts can be found in the company’s own internal documents.

This report relies on data from OSHA 300 and 300A logs collected from Amazon warehouses around the country to develop a systematic understanding of health and safety performance at the company’s facilities and identify solutions for making these workplaces safer for workers.

Amazon’s own internal data paints a very troubling picture about what is happening inside the company’s fulfillment centers:

- In 2018, the Total Recordable Injury Rate (TRIR) at Amazon facilities in the sample was 10.76 per 100 workers. This is **three times as high as the injury rate across all private employers** (2.8 recordable injuries per 100 workers) and **more than twice as high** as the injury rate in the notoriously hazardous general warehousing industry (5.2 recordable injuries per 100 workers).
- Workers at Amazon suffered the most serious injuries at rates five times the national average for all private industries. The injuries suffered by workers at Amazon are so serious that workers had to be removed from their job at Amazon—**88.9 percent of workers who were injured had to miss work or be placed on restricted duty**.
- These injuries are severe. Workers injured at Amazon were **forced to miss an average of five-and-a-half weeks of work to recover** from their workplace injuries.
- **Injury rates spike during the peak holiday shopping season** between Black Friday and Christmas. Injury rates begin to climb dramatically throughout the peak shopping season before spiking at two-and-a-half times the company’s annual average in the 50th week of the year—approximately two weeks before Christmas.
- The overwhelming majority of injuries recorded in Amazon’s OSHA 300 Logs include musculoskeletal injuries, such as sprains, strains and tears. These injuries accounted for almost 75 percent of the injuries recorded in the logs. The body parts most commonly injured are workers’ backs, shoulders, knees, wrists, ankles and elbows. These **types of injuries are often caused by workers assigned tasks involving ergonomic hazards** including forceful exertions, repetitive motions, twisting, bending, and awkward postures.
- Over the past five years, federal inspectors from the Occupational Safety and Health Administration (OSHA) have **issued 67 citations at Amazon’s facilities, levying fines totaling \$262,132**. This enforcement activity, however, likely only scratches the surface of safety violations

at Amazon facilities. Over the past half-decade, **78 percent of Amazon’s facilities have not received a single visit from OSHA inspectors.**

Federal law requires that, *“each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.”*¹ Amazon’s own data clearly shows that the company is breaking the law and as a result, workers are being injured in fulfillment centers around the country at shockingly high rates. These injuries are forcing workers to miss weeks of work while they recover and, in too many cases, experience pain for the rest of their lives. And the vast majority of these injuries are preventable.

Amazon must take immediate action to eliminate hazards in its warehouses and other facilities and make its workplaces safe for workers. The company must,

- Identify and address ergonomic hazards in fulfillment centers and other facilities and implement safer workstation designs and practices **to reduce the risk of injury to workers;**
- **Reduce the speed of work** and increase break times to address the hazards of fast-paced, stressful, repetitive work in its workplaces;
- Provide **adequate medical care** for employees who are injured on the job.
- Share readily available information on injuries and illnesses with workers to allow them to **better understand the risks to which they are being exposed;**
- Ensure that senior management, the Board of Directors and shareholders all **take responsibility for creating safe workplaces;** and
- Engage with **worker-led health and safety committees** to identify and eliminate hazards in its facilities.

Each of these solutions could dramatically improve health and safety outcomes for the hundreds of thousands of workers in Amazon’s fulfillment centers and warehouse facilities. If done well, many of these changes would cost very little in comparison to the company’s annual revenues and could actually improve the efficiency and reliability of the company’s fulfillment networks. Workers are being hurt at an alarming rate and there is no good reason for Amazon to further delay taking meaningful action to fix these hazards and make work safer.

¹ “OSH Act of 1970 | Occupational Safety and Health Administration,” accessed November 26, 2019, <https://www.osha.gov/laws-regs/oshact/section5-duties>.

Introduction

Amazon is rapidly transforming key aspects of our society and our economy, from the way that we shop to the way that we store and access information to the way that we work. Over the past two-and-a-half decades, the company has built out a mammoth logistics and fulfillment network aimed at moving goods from customers’ computer screens to their front doors faster than ever before. With more than 100 million subscribers to its Prime service, Amazon has made two-day shipping the standard across the eCommerce industry and is working to deliver some products in a day or less as competitors race to catch up.

Amazon has invested billions in artificial intelligence (AI) and robotics to automate its warehousing and distribution network, but it still relies on hundreds of thousands of workers to pull orders, make deliveries, and keep its distribution network running. With more than 200,000 employees in the U.S. and 640,000 around the world, Amazon is the country’s second-largest private-sector employer behind only Walmart.

While workers in Amazon’s fulfillment centers fill essential roles that cannot efficiently be performed by robots, this has not stopped Amazon executives and engineers from treating workers like robots. In the company’s fulfillment centers—massive warehouses stretching over several football fields where customer’s orders are picked and prepared for shipment—workers’ tasks are assigned, and their movements are closely monitored by Amazon’s automated systems.

The system tells workers where to walk and which items to pull. It also monitors each workers’ individual productivity and whether or not they are meeting “rate” by pulling the number of packages that the system thinks workers should be pulling

each hour. The system tracks “time off task” or “TOT,” and automatically generates warnings when too much time elapses between scanning packages.²

For Amazon workers, rate is a constantly moving goal with new algorithms being introduced to speed up rates and force workers to work faster. In at least one iteration of the rate program, the number of items each worker was expected to pull each hour would be increased as soon as 75 percent of the workforce was able to meet the rate. Under that version of the program the slowest 5 percent of employees would be placed on a training plan and possibly subject to discipline or firing.³

Amazon’s constant pressure on workers to move faster has also spread to city streets across the United States. In an effort to reduce delivery costs and improve delivery time, Amazon has established its own network of last-mile delivery drivers. While some of the drivers work for a contractor or other delivery company, all of these last-mile drivers are provided with a GPS device called a “rabbit” that allows Amazon to track deliveries, provide turn-by-turn instructions and monitor drivers’ progress. Amazon sets daily delivery loads for drivers—sometimes as high as 400 deliveries per day during the peak holiday season—and drivers are forced to scramble to keep up with the delivery rate. In interviews about their experience working as Amazon delivery drivers, current and former drivers almost universally reported speeding or violating other

² Colin Lecher, “How Amazon Automatically Tracks and Fires Warehouse Workers for ‘Productivity,’” *The Verge*, April 25, 2019, <https://www.theverge.com/2019/4/25/18516004/amazon-warehouse-fulfillment-centers-productivity-firing-terminations>.

³ Lecher.

traffic laws to keep up with their daily delivery quotas.⁴

Amazon sets the standard for delivery and fulfillment in the eCommerce industry and it also undeniably sets the standards for employment practices and working conditions in the industry. That is alarming news for the millions of workers in the warehousing and logistics industry. Behind the turnstiles of Amazon’s fulfillment centers, delivery stations and other warehouse and delivery operations, tens of thousands of workers are paying for the cost of free two-day shipping with their bodies.

As Amazon’s promise of free and fast delivery has become more and more ubiquitous, so too have reports of unsafe working conditions inside the company’s fulfillment centers. Amazon has topped the National Center for Occupational Safety and Health’s (NCOSH) “Dirty Dozen” list of employers who put workers and communities at risk for two years straight, with NCOSH reporting, *“Workers labor at a relentless pace, with constant monitoring of their activities. This high stress environment leads to physical and emotional ailments – but reports indicate that the company*

*does not provide adequate support to those suffering on-the-job injuries.”*⁵

Pressure inside some Amazon facilities is so intense that many employees have experienced mental health crises. Analyzing 911 records and police reports, researchers Max Zahn and Sharif Paget found at least 189 instances of emergency services personnel being called to Amazon facilities for suicide attempts, suicidal thoughts, or other mental-health episodes between October 2013 and October 2018. One former employee described their experience at an Amazon facility in Florida in stark terms: *“It’s this isolating colony of hell where people having breakdowns is a regular occurrence...[It’s] mentally taxing to do the same task super-fast for 10-hour shifts, four or five days a week.”*⁶

And when workers are injured on the job, many have reported that Amazon management forced them back to work too quickly after their injuries or failed to properly compensate them for their injuries. A 2018 investigation by the Guardian uncovered a number of cases where Amazon workers suffering from workplace injuries found themselves homeless, unable to work or without income.⁷

⁴ Hayley Peterson, “Missing Wages, Grueling Shifts, and Bottles of Urine: The Disturbing Accounts of Amazon Delivery Drivers May Reveal the True Human Cost of ‘free’ Shipping,” Business Insider, accessed August 15, 2019, <https://www.businessinsider.com/amazon-delivery-drivers-reveal-claims-of-disturbing-work-conditions-2018-8>.

⁵ National Council for Occupational Safety and Health, “The Dirty Dozen,” 2019, http://nationalcosh.org/sites/default/files/uploads/2019_Dirty_Dozen.pdf.

⁶ Sharif Paget and Max Zahn, “‘Colony of Hell’: 911 Calls from Inside Amazon Warehouses,” *The Daily Beast*, March 11, 2019, sec. tech, <https://www.thedailybeast.com/amazon-the-shocking-911-calls-from-inside-its-warehouses>.

⁷ Michael Sainato, “Accidents at Amazon: Workers Left to Suffer after Warehouse Injuries,” *The Guardian*, July 30, 2018, sec. Technology, <https://www.theguardian.com/technology/2018/jul/30/accidents-at-amazon-workers-left-to-suffer-after-warehouse-injuries>.

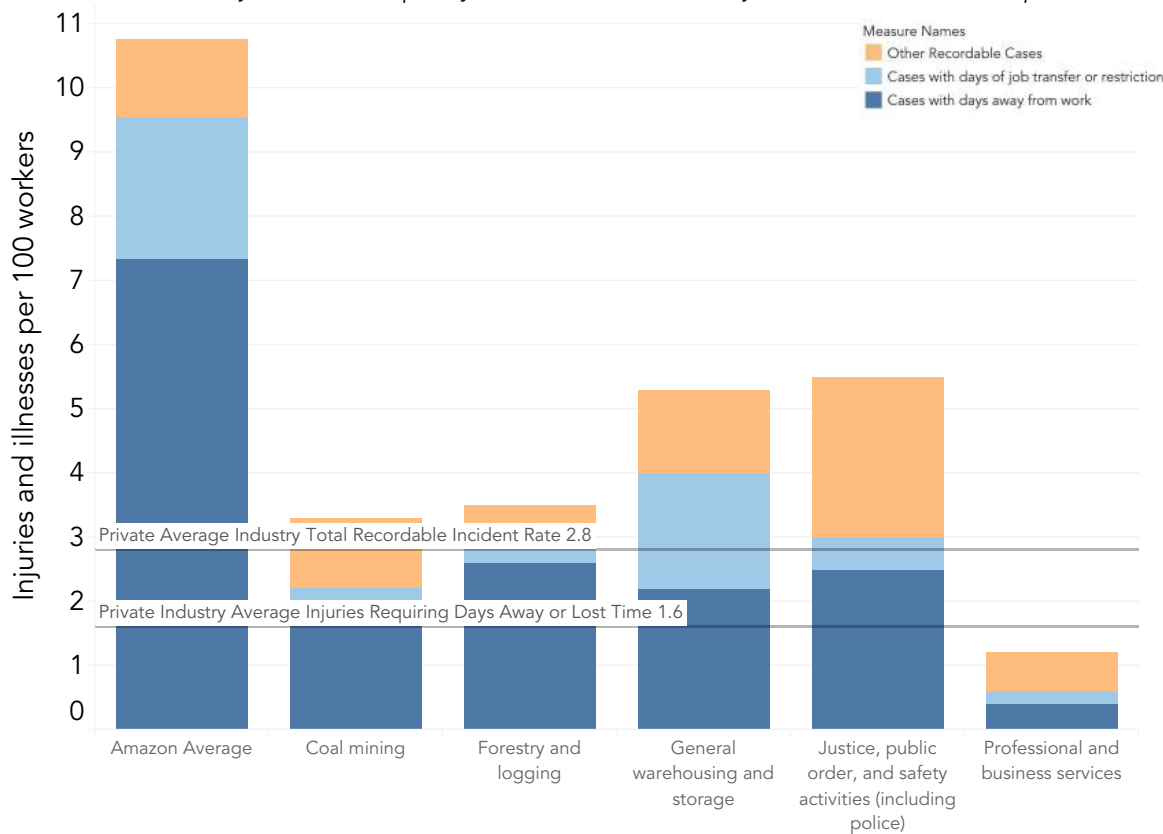
Amazon’s Internal Data Shows Alarming High Injury Rates

Some of the most troubling accounts of Amazon’s health and safety practices don’t come from whistleblowers or workers; they can be found in the company’s own internal documents. The Occupational Safety and Health Administration requires employers to maintain records of serious occupational injuries and illnesses using the “OSHA 300” log form to help regulators, workers, and employers to identify workplace hazards and work together to prevent injuries. By law, workers and former workers have the right to request their own copies of these logs so they can better understand the hazards that are present in their workplaces and work to protect themselves and their coworkers.⁸

Amazon’s own internal data paints a very troubling picture about what is happening behind the turnstiles at the company’s fulfillment centers. Every year, one out of every 10 Amazon workers suffers a recordable injury at work. These injuries are so severe the average injured worker is forced to miss six-and-a-half weeks of work to recover. The sheer number of workers impacted by this epidemic of workplace injury is staggering.

Injury rate at Amazon is three times as high as the national average

Workers at Amazon are injured more frequently than coal miners, lumberjacks, trash collectors and police officers



Injury rates at Amazon are based on OSHA 300A log data from all facilities in the sample for the year 2018—a total of 24 facilities from 15 states. Injury rates for other industries come from the BLS Injury, Illness, and Fatalities Data for 2018 https://www.bls.gov/iif/oshwc/osh/os/summ1_00_2018.htm

⁸ “1904.35 - Employee Involvement. | Occupational Safety and Health Administration,” accessed May 30, 2019, [https://www.osha.gov/laws-regs/regulations/standardnumber/1904/1904.35#1904.35\(b\)\(1\)\(iv\)](https://www.osha.gov/laws-regs/regulations/standardnumber/1904/1904.35#1904.35(b)(1)(iv)).

To develop this report, current and former workers at 28 Amazon facilities in 16 states requested Amazon’s internal injury records (OSHA 300 logs) from their managers to help better understand the hazards that they and their coworkers have been exposed to in their facilities.^{9 10}

Amazon’s internal records from these warehouses show injury and illness rates far above industry averages. In 2018, the Total Recordable Injury Rate (TRIR) at the Amazon facilities in the sample was 10.76 per 100 “full-time equivalent”¹¹ workers. This is three times as high as the injury rates across all private employers (2.8 recordable injuries per 100 employees) and almost twice as high as the injury rate in the notoriously hazardous general warehousing industry (5.2 recordable injuries per 100 employees) in the same year. Based on Amazon’s own internal numbers, workers at Amazon are more likely to be injured at work than police officers, solid waste collectors, lumberjacks or coal miners.¹²

Most alarming, in 2018 workers at Amazon suffered the most serious injuries at rates five times the national average for all private industries: 9.57 disabling injuries per 100 workers, compared to 1.6 for all private industry. That year 88.95 percent of workers who were injured had to miss work or be placed on restricted duty.¹³

Injuries Increase Dramatically During the “Peak” Holiday Shopping Season

The timing and frequency of injuries at Amazon facilities provides some insights on the factors that may be causing this high injury rate. Injury rates appear to be relatively consistent within Amazon facilities throughout the year until November and December, when Amazon workers suffer a steep increase in the number of injuries. This increase matches up with Amazon’s annual peak holiday season, which runs approximately from Black Friday (the Friday after Thanksgiving) to Christmas. During peak season, workers are forced to work longer hours with standard shifts extending from 10 hours per day to 11 or 12 hours per day. Amazon also places significant restrictions on workers using accrued time off during this four-to-six-week stretch.¹⁴

Injury rates climb quickly through peak season before spiking in the 50th week of the year—two weeks before Christmas. A portion of the increase in injuries is likely related to fluctuations in the number of hours worked and staffing levels within the facilities. But Amazon’s OSHA 300 logs show that in the 50th week of the year, injuries are occurring in the company’s facilities at more than two-and-a-half times Amazon’s annual average—an increase much greater than can be attributed to increased headcount inside the facilities.

⁹ Amazon classifies its warehouses in several different categories based on their size, function and equipment. In sortable fulfillment centers, workers work alongside robots to pick, pack and ship packages that are smaller than about 18 inches. In non-sortable fulfillment centers, workers pick, pack and ship bulky or larger-sized items that cannot be processed by robotic systems. At sortation (or “sort”) centers, workers sort orders by final destination and consolidate them onto trucks for faster delivery. <https://www.aboutamazon.com/amazon-fulfillment/our-fulfillment-centers/fulfillment-in-our-buildings/>

¹⁰ For a full listing of facilities included in the sample and an explanation of the methodology see the Technical Note in Appendix A of this document

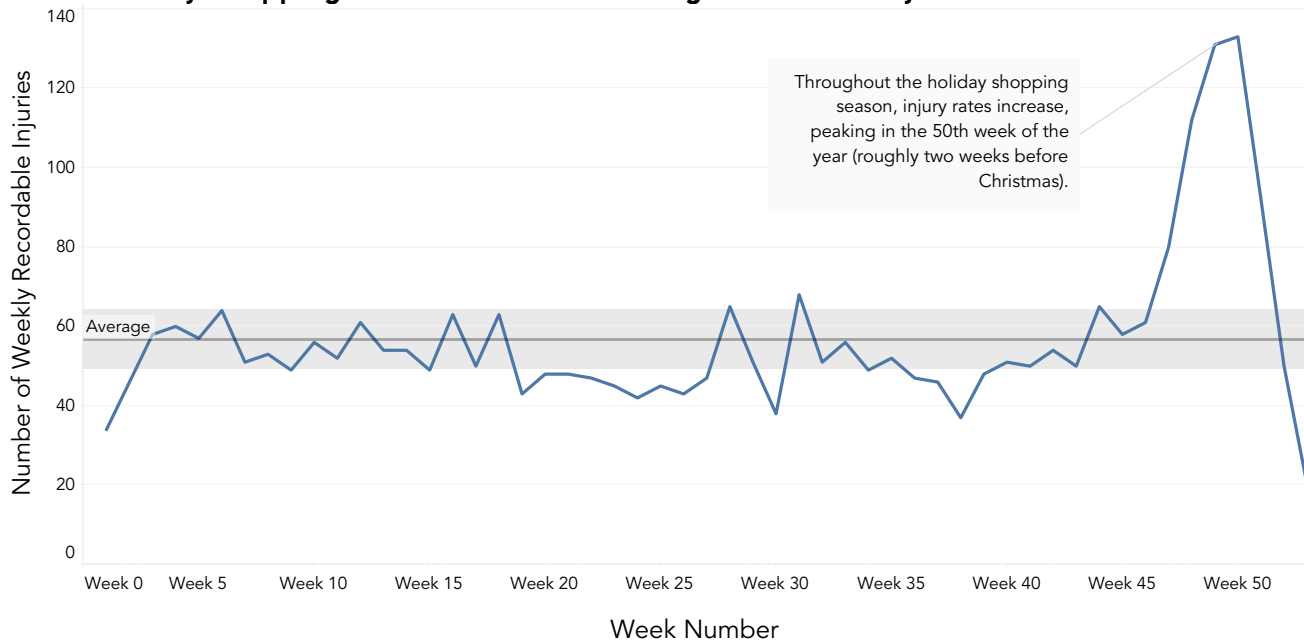
¹¹ Full time equivalent workers is calculated by dividing the total number of hours worked in each facility by 2,000.

¹² “TABLE 1. Incidence Rates of Nonfatal Occupational Injuries and Illnesses by Industry and Case Types, 2018,” accessed November 11, 2019, https://www.bls.gov/iif/oshwc/osh/os/summ1_00_2018.htm.

¹³ Ibid

¹⁴ Isobel Asher Hamilton and Aine Cain, “Amazon Warehouse Employees Speak out about the ‘brutal’ Reality of Working during the Holidays, When 60-Hour Weeks Are Mandatory and Ambulance Calls Are Common,” *Business Insider*, February 19, 2019, <https://www.businessinsider.com/amazon-employees-describe-peak-2019-2>.

The holiday shopping season is the most dangerous time of year for Amazon workers



This chart shows the trend of sum of number of weekly recordable injuries throughout the year. All data in the sample is included for all years 2014-2018. Sample includes OSHA 300 logs for two facilities for 2014, five facilities for 2015, seven facilities for 2016, ten facilities for 2017, and 12 facilities for 2018.

Nature and Severity of Injuries

The overwhelming majority of injuries reported in the Amazon OSHA 300 logs in our sample include musculoskeletal injuries, such as sprains, strains and tears. These injuries accounted for almost 75 percent of the injuries recorded in the logs. The body parts most commonly injured are workers’ backs, shoulders, knees, wrists, ankles and elbows. These types of injuries are often caused by workers assigned tasks involving ergonomic hazards including forceful exertions, repetitive motions, twisting, bending, and awkward postures. The risk of injury associated with these tasks increases dramatically with the pace of work. At Amazon facilities, the rate at which workers fill orders is carefully monitored, as is the amount of time employees spend resting or ‘off task.’ Amazon’s human resources management software automatically generates discipline notices and even dismissal letters for employees who fail to maintain the rate that management has set for workers.¹⁵

When workers are injured at Amazon facilities, they are typically sent to an “AmCare” onsite medical facility for first aid. The staff at AmCare—referred to by Amazon as “Onsite Medical Representatives,” are typically emergency medical technicians (EMTs), not physicians or registered nurses. EMTs are qualified to provide first-aid and determine whether or not a worker needs to be transported to a hospital. EMTs are not certified to diagnose or treat injuries that need more than first aid, nor are they certified to write prescriptions, give medications, order x-rays or lab tests.

In 2015 an OSHA inspection revealed that AmCare employees were providing medical care beyond the first aid treatment that they were qualified to offer. The OSHA area director overseeing the inspection

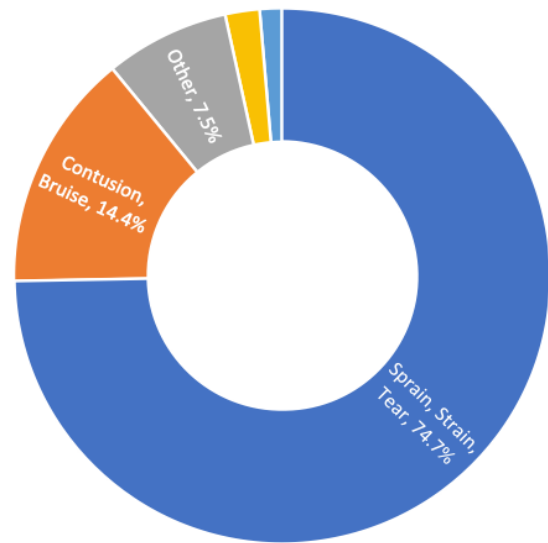
¹⁵ Lecher, “How Amazon Automatically Tracks and Fires Warehouse Workers for ‘Productivity.’”

was so alarmed by the situation that she sent a letter directly to Amazon CEO Jeff Bezos notifying him that her inspection revealed, “AMCARE personnel were providing medical care beyond what is allowed by their licensing and certification without the supervision of a board certified qualified medical professional licensed to practice independently.”¹⁶ When OSHA conducted an additional inspection of the Robbinsville facility in February of 2019, investigators learned that while care protocols had been updated, AmCare Onsite Medical Representatives were being allowed to treat workers for up to 21 days before referring a worker to a physician. The OSHA area director responsible for that investigation wrote that, “a delay in physician-supervised treatment of that duration is not consistent with the standard of medical care expected at a health care facility.”¹⁷

AmCare first aid staff attempting to provide medical care without the proper training or qualifications can lead to disastrous consequences for workers. In October 2019, Billy Foister, a 48-year-old Amazon fulfillment center employee went to AmCare complaining of chest pain. The AmCare staff diagnosed him with dehydration, gave him two beverages to drink and sent him back to work. A week later, Foister suffered a severe heart attack and died while working in the fulfillment center.¹⁸

Many of the sprains, strains and tears that are so common in Amazon facilities are considerably less dramatic than Billy Foister’s case. But if AmCare employees without appropriate medical training attempt to diagnose and treat workers suffering from musculoskeletal injuries, the outcomes can be devastating as well. When Amazon workers experience severe muscle or joint pain at work, the EMTs at AmCare provide first aid care—typically applying ice to the injury and offering over-the-counter pain relievers before sending them back to work—often in as little as 15 minutes. In an investigation into treatment of injuries at AmCare facilities conducted by The Intercept, two-thirds of AmCare staff interviewed reported that their bosses pressured them to send injured employees back to the warehouse when they likely needed additional medical attention.¹⁹

Sprains, strains and tears are the most common injuries suffered by Amazon workers



■ Sprain, Strain, Tear ■ Contusion, Bruise ■ Other
■ Cut, Laceration ■ Fracture

Nature of injury as percentage of all injuries in the sample. All data in the sample is included for all years 2014-2019. Sample includes OSHA 300 logs from two facilities for 2014, five facilities for 2015, seven facilities for 2016, eight facilities for 2017 and 11 facilities for 2018. Nature of injury is determined by performing a keyword match of the Narrative of Injury field from the OSHA 300 logs for the 11 injury "Nature of injury, illness" major categories that appear in the BLS Occupational Injury/Illness Classification System Manual (<https://www.bls.gov/iif/oshoiics.htm>).

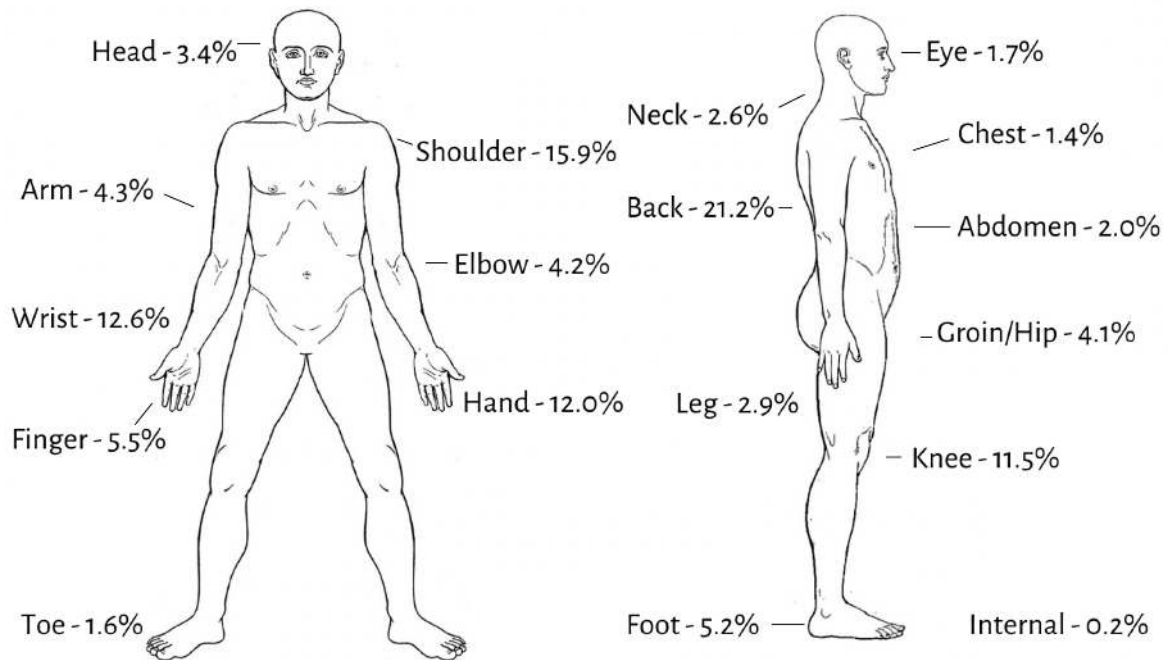
¹⁶ Occupational Safety and Health Administration, “OSHA Hazard Letter,” January 6, 2015, https://www.osha.gov/ooc/citations/Amazon_1074833_HAL.pdf.

¹⁷ Occupational Safety and Health Administration, “OSHA Hazard Letter,” August 19, 2019

¹⁸ Michael Sainato, “‘Go Back to Work’: Outcry over Deaths on Amazon’s Warehouse Floor,” *The Guardian*, October 18, 2019, <https://www.theguardian.com/technology/2019/oct/17/amazon-warehouse-worker-deaths>.

¹⁹ H. Claire Brown, “How Amazon’s On-Site Emergency Care Endangers the Warehouse Workers It’s Supposed to Protect,” *The Intercept* (blog), December 2, 2019, <https://theintercept.com/2019/12/02/amazon-warehouse-workers-safety-cyber-monday/>.

Where Amazon Workers are Getting Injured



Percentage of recordable cases involving injuries to each body part. Sample includes OSHA 300 logs from two facilities for 2014, five facilities for 2015, seven facilities for 2016, eight facilities for 2017 and 11 facilities for 2018. Body part is identified by keyword matching major body parts with the "Narrative of Injury" from OSHA 300 logs. Because some cases resulted in injuries to multiple body parts that total of percentages is greater than 100%.

First aid is not a substitute for professional diagnosis and treatment of repetitive trauma disorders that can cause debilitating and permanent muscle or joint injury. Conducting this type of diagnosis is outside of the scope of practice of EMTs that staff AmCare facilities and delaying visits to a qualified doctor who can provide competent diagnosis and adequate medical treatment can make such injuries worse.²⁰

Ice and over the counter pain relievers can help in masking pain and in getting workers back at their workstations. But that first aid does nothing to help workers actually recover and heal. Worse, it does nothing to address the hazards that caused the injury. When supervisors send workers back to work while still injured, force them to work long hours, and prohibit them from taking days off for weeks at a time, even small injuries can turn into much more severe injuries. Research has shown that when employers do not proactively address musculoskeletal injuries and reduce or eliminate ergonomic hazards, injured workers miss an average of 36 percent more days of work and are significantly less likely to return to work at all.²¹ Additionally, forcing injured workers to return to jobs with the same or similar ergonomic hazards like excessive pace, repetitive

²⁰ "National EMS Scope of Practice Model," National Highway Traffic Safety Administration, February 2007, <https://www.ems.gov/education/EMSScope.pdf>.

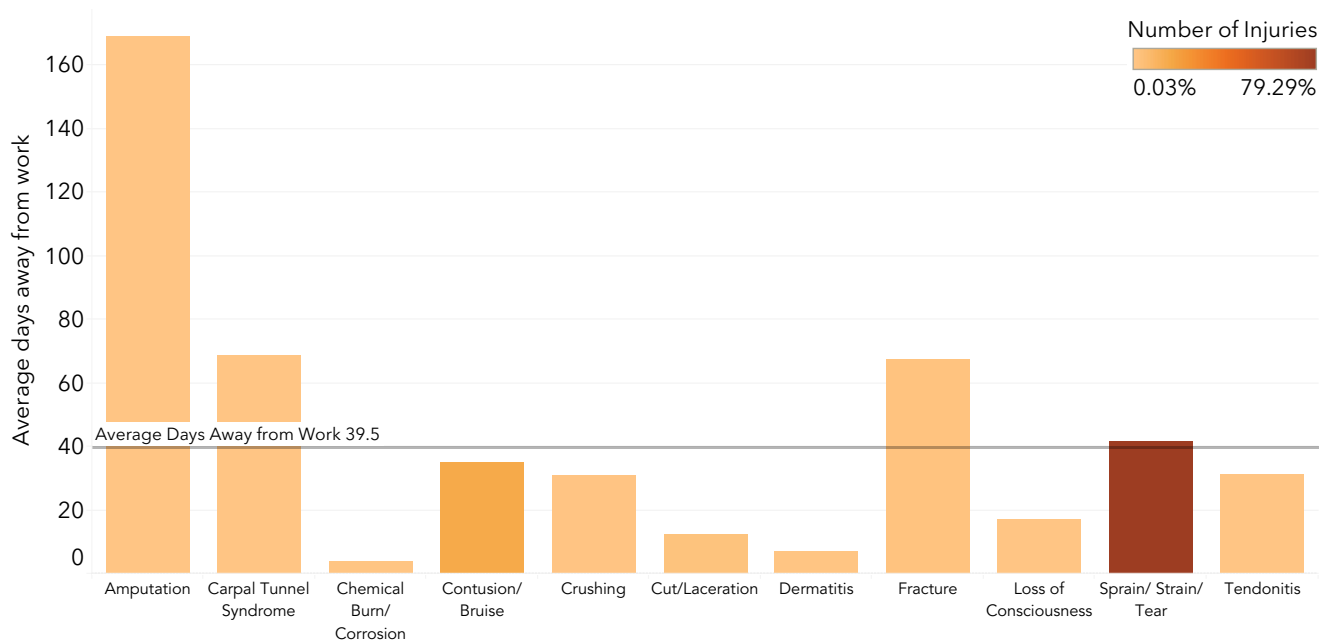
²¹ Bengt B. Arnetz et al., "Early Workplace Intervention for Employees with Musculoskeletal-Related Absenteeism: A Prospective Controlled Intervention Study," *Journal of Occupational and Environmental Medicine* 45, no. 5 (May 2003): 499, <https://doi.org/10.1097/01.jom.0000063628.37065.45>.

continuous strain and stressful working positions, has been shown to increase risks of reinjury and raise barriers to workers being able to return to work at all.²²

This helps to explain the high rate of severity of the injuries recorded in Amazon’s OSHA 300 logs. Workers who suffered from recordable injuries were forced to miss an average of five and a half weeks of work. As shown above, workers experiencing sprains, strains and tears, the most common injury recorded in Amazon’s OSHA 300 logs were forced to miss an average of nearly six weeks of work.

The types of severe injuries that workers are suffering from—sprains, strains and tears to the shoulder, back, knee, wrist and foot—are injuries that can stay with workers for the rest of their lives leading to chronic pain and an elevated risk of reinjury and long-term disability. The prospect of suffering a life-long injury is particularly troubling for the younger workers who make up the majority of the warehousing and electronic shopping industry. According to U.S. Census data, 27 percent of workers in the warehousing industry are younger than 25 years old and 56 percent of warehouse workers are younger than 35 years old.²³

Injured workers miss an average of five-and-a-half weeks of work



Average number of days away from work for each nature of injury. All data in the sample is included for all years 2014-2019. Sample includes OSHA 300 logs for two facilities for 2014, five facilities for 2015, seven facilities for 2016, ten facilities for 2017, 12 facilities for 2018 and nine facilities for 2019 (partial year). Nature of injury is determined by performing a keyword match of the Narrative of Injury field from OSHA 300 logs for the 11 "nature of injury, illness" major categories that appear in the BLS Occupational Injury/Illness and Fatal Injuries Profile. Shading represents the frequency that each nature of injury appears in the sample.

²² Niklas Krause and Thomas Lund, "Returning to Work After Occupational Injury," in *The Psychology of Workplace Safety*, ed. Julian Barling and Michael Frone (American Psychological Association, 2004), 265–99.

²³ US Census Bureau American Community Survey 2013-2017.

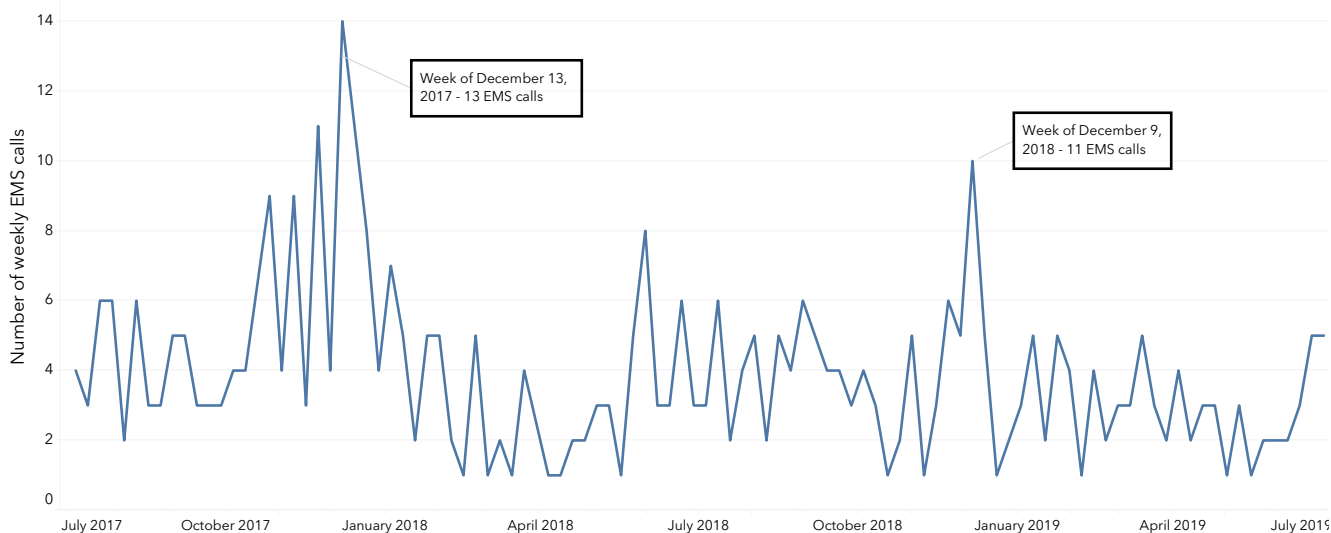
911 Logs Show Frequent Emergency Medical Service Dispatches to Amazon Facilities

In addition to the company’s own internal data, records of calls from Amazon facilities to local emergency responders offer another look at health and safety performance inside of Amazon’s facilities. The Boone County Public Safety Communications Center released two years of Computer Aided Dispatch (CAD) logs from July 1, 2017 to July 1, 2019 for six Amazon facilities in the town of Hebron, Kentucky in response to a Kentucky Open Records Act (KRS 61.870-61.884) request. Hebron, Kentucky is a major hub of operations for Amazon’s national distribution network including three fulfillment centers, one cross dock, two sortation centers and the new hub for Amazon Air Cargo operation at Cincinnati’s CVG airport.

The timing of calls for EMS services at the Amazon facilities in Hebron mimics the timing of injuries and illnesses recorded in the company’s other facilities included in the sample, with noticeable spikes in 911 calls during the peak season between Black Friday and Christmas each year.

911 calls from Amazon’s Boone County facilities increase dramatically during the peak holiday season

July 1, 2017-July 1, 2019

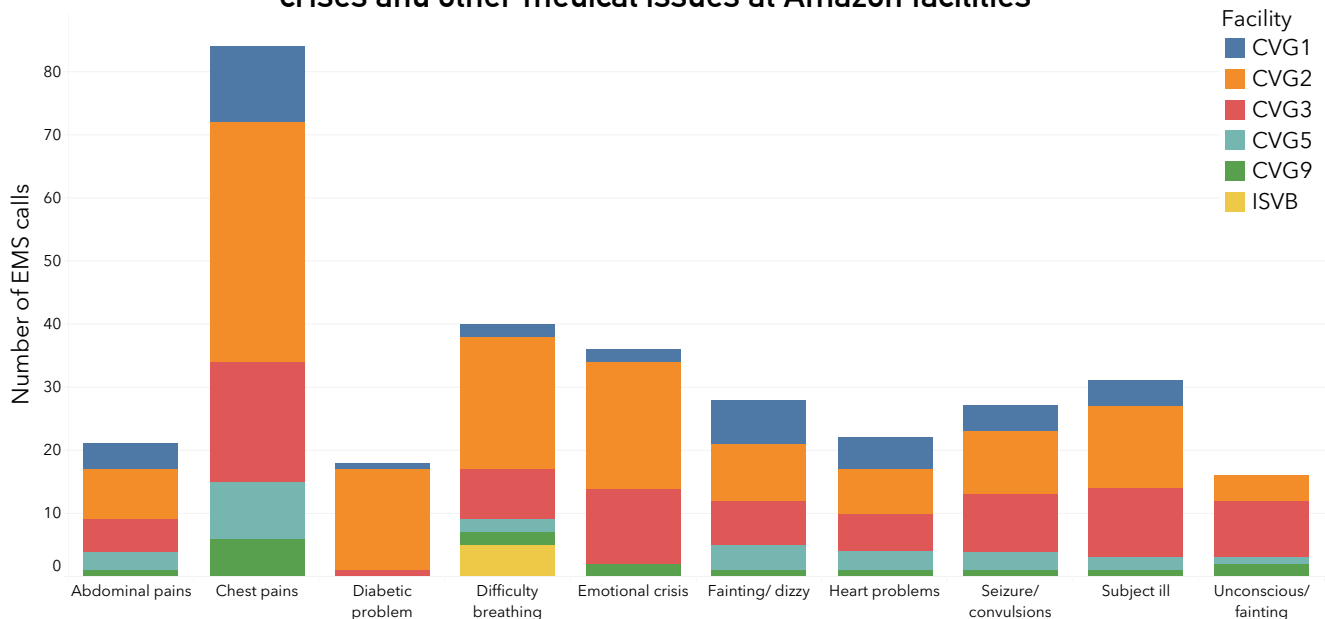


Records of 911 calls to Amazon facilities in Boone County, Kentucky from July 1, 2017 to July 1, 2019 provided by the Boone County Public Safety Communications Center in response to a Freedom of Information Act request. The data set includes records of 911 calls where EMS personnel were dispatched to six Amazon facilities in Boone County including CVG1 (Specialty Fulfillment), CVG2 (Fulfillment), CVG3 (Cross dock), CVG5 (Sortation), CVG9 (Sortation) and ISVB (Specialty Fulfillment).

Where the information reported in the Boone County 911 logs begins to show some important differences from Amazon’s OSHA 300 logs is in the types of incidents recorded. By far, the most frequent incident triggering a 911 call in Hebron during this two-year timespan was workers experiencing chest pain—EMS personnel responded to 84 calls about workers experiencing chest pain. Emergency personnel also

responded 40 times for reports of workers with difficulty breathing, 36 for workers in an emotional crisis, 26 times for workers who had fainted or were experiencing dizziness, and 27 times for seizures or convulsions.²⁴

EMS personnel respond to calls reporting chest pains, difficulty breathing, emotional crises and other medical issues at Amazon facilities



Records of 911 calls to Amazon facilities in Boone County, Kentucky from July 1, 2017 to July 1, 2019 provided by the Boone County Public Safety Communications Center in response to a Freedom of Information Act request. The data set includes records of 911 calls where EMS personnel were dispatched to six Amazon facilities in Boone County including CVG1 (Specialty Fulfillment), CVG2 (Fulfillment), CVG3 (Cross dock), CVG5 (Sortation), CVG9 (Sortation) and ISVB (Specialty Fulfillment). The ten most frequent types of incident are shown.

Interestingly, many of the frequent reasons for 911 calls are not the issues we find in Amazon’s OSHA 300 logs. These 911 calls — for chest pains, heart problems, emotional crises, dizziness, difficulty breathing, etc. — were likely not recorded in the OSHA 300 logs because Amazon decided they were not “work-related.” If this is the case, it could mean that a large number of serious medical incidents at Amazon’s warehouses are not being recorded in the company’s OSHA 300 logs.

There is no way to definitively determine whether the medical incidents that led to 911 calls in Hebron were work-related. But, it’s hard to believe that all of the 84 incidents where workers experienced chest pains, 40 incidents where workers experienced difficulty breathing, or 36 cases where workers experienced emotional crises were unrelated to the extremely fast-paced and injury-laden work in Amazon’s warehouse. It is possible that some of these incidents could have been caused by existing medical conditions that had nothing to do with the workplace. But it is also likely that the heavy physical labor, constant monitoring and incessant pressure to work faster contributed in important ways to a number of these incidents.

²⁴ Records of 911 calls to Amazon facilities in Boone County, Kentucky from July 1, 2017 to July 1, 2019 provided by the Boone County Public Safety Communications Center in response to a Freedom of Information Act request. The data set includes records of 911 calls where EMS personnel were dispatched to six Amazon facilities in Boone County including CVG1 (Specialty Fulfillment), CVG2 (Fulfillment), CVG3 (Cross dock), CVG5 (Sortation), CVG9 (Sortation) and ISVB (Specialty Fulfillment). The ten most frequent types of incident are shown.

OSHA Cites Amazon for Dozens of Violations but Only Scratches the Surface of the Company’s Distribution Empire

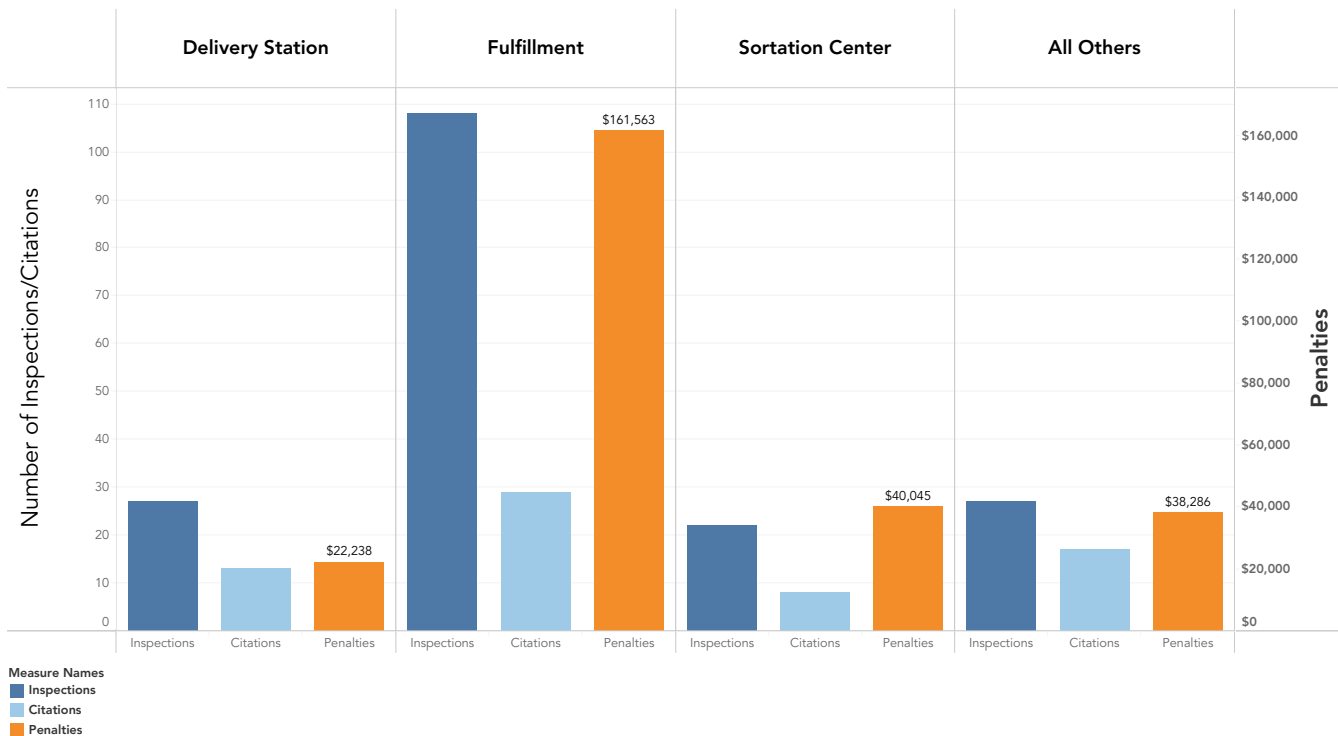
The high volume and elevated severity of illnesses and injuries experienced by Amazon workers are truly alarming. By any measure, the rate of injuries recorded in Amazon’s own records represent a significant public health concern. So why has Amazon been able to continue to injure workers year after year?

The federal agency responsible for overseeing health and safety in most of the workplaces in the United States is the Occupational Safety and Health Administration (OSHA). OSHA has the authority to set and enforce

workplace health and safety standards and a mandate to enforce those standards (as well as provide training, outreach, education and assistance to workers and employers).

OSHA has, in fact, inspected a number of Amazon sites and issued citations and fines to the company for violations of federal health and safety standards. Over the past five years, OSHA conducted 102 inspections at Amazon facilities issuing 67 citations and penalties totaling over \$262,132 (a sum of money that is roughly .0087 percent of Amazon’s profits in 2018 alone).

OSHA Inspections and Citations by Facility Type



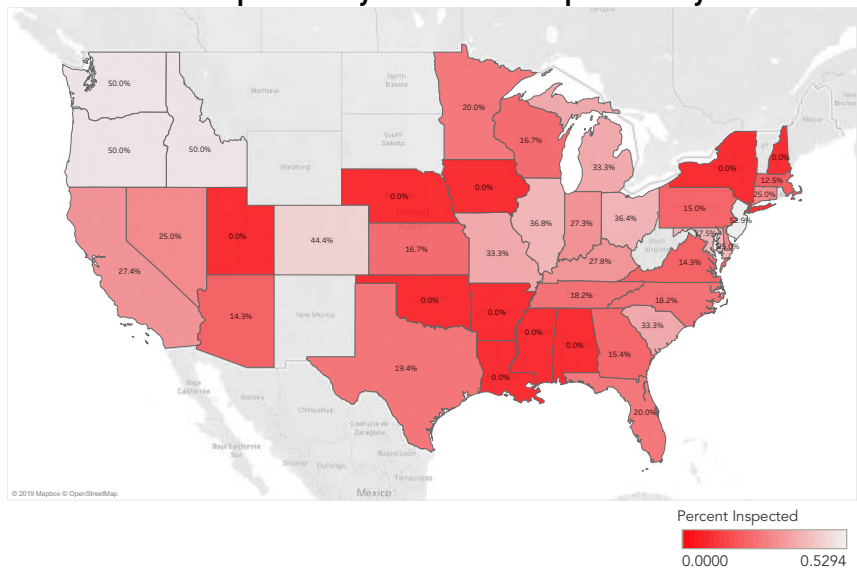
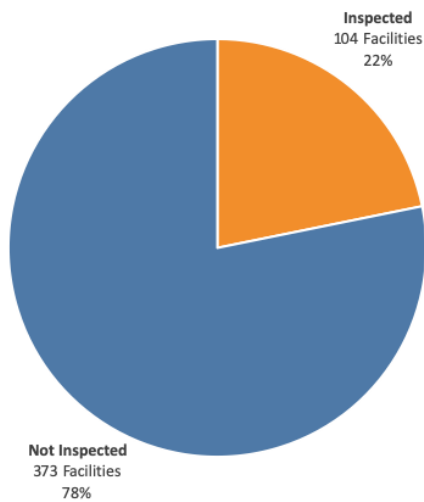
Data retrieved from OSHA inspection records of Amazon facilities from November 1, 2014-November 1, 2019 from the US Department of Labor Enforcement Data website <https://enforcedata.dol.gov> (accessed (November 4, 2019)).

While the number of OSHA citations issued at Amazon indicates that something is seriously wrong with Amazon’s health and safety practices, OSHA’s ability to effectively deter employers’ behavior that leads to health and safety violations is relatively limited—especially at huge employers like Amazon. OSHA, along with its state partners, has fewer than 2,000 inspectors to cover over 9 million worksites, and it is estimated

it would take OSHA over 100 years to investigate every workplace under its jurisdiction just once. The average penalty for any single serious violation is only \$3,580.²⁵

Over the past five years, OSHA has only conducted inspections at 22 percent of Amazon facilities. Nationwide there are 373 Amazon facilities that have not been inspected by OSHA at any time in the past half-decade.

78% of Amazon facilities have not been inspected by OSHA in the past five years



Graphs show a comparison of a master list of of Amazon facilities nationwide cross-referenced with a OSHA inspection records for facilities identified as Amazon facilities from 2014-present from the US Department of Labor Enforcement Data website <https://enforcedata.dol.gov> (accessed 10/15/19). The pie chart on the left represents the percentage of all Amazon facilities inspected. Because some facilities were inspected several times while other nearby facilities the map on the right shows the ration of facilities to inspections, which may overstate the portion of facilities inspected in the timeframe.

²⁵ AFL-CIO, “Death on the Job. The Toll of Neglect. A National and State-By-State Profile of Worker Safety and Health in the United States,” April 2019, https://aflcio.org/sites/default/files/2019-05/DOTJ2019Fnb_1.pdf.

Amazon Treats Workers as Disposable Parts in a Machine

For decades, Amazon leadership has cultivated a culture of treating workers as disposable parts in a big machine—pushing their minds and bodies alike until they are no longer useful and then letting them go. According to a survey by PayScale, Amazon has one of the highest employee turnover rates of any Fortune 500 company with a full half of its workforce working with the company for less than one year.²⁶ Current and former employees at every level describe a “churn and burn” culture at Amazon and even CEO Jeff Bezos proudly proclaims, “It’s not easy to work here.”²⁷

This churn and burn culture can be particularly acute in the company’s fulfillment network where the company makes around one-third of its annual sales during the holiday shopping season.²⁸ To prepare for the holiday peak season, Amazon dramatically increases hiring, recruiting more than 100,000 new workers each year. But by January, when the holiday rush is over, the company does not need nearly as many workers.²⁹ The hundreds of workers who are injured during the Peak season are no longer needed to keep products moving through the fulfillment system.

Amazon’s algorithms and tracking systems constantly monitor worker productivity throughout the workday. In distribution centers workers are required to keep up with a constantly-increasing “rate,” pulling hundreds of items each hour throughout their shifts. When workers fall behind, Amazon’s management software automatically generates warning letters, targets workers for

“retraining” and even discharges workers without the involvement of any human manager in the process.³⁰

The tracking system also monitors workers’ “Time Off Task” or “TOT” and generates written warnings when the system observes workers taking too much time between scanning items. When the system generates enough warnings for an employee in a six-month period, it will automatically generate a termination letter, once again, without any involvement from a human manager. Workers are scheduled for two 15-minute breaks and one 30-minute lunch break each 10 or 12 hour shift. Any additional breaks to use the restroom or rest from the relentless pace of the work are counted against worker’s time off task and rate. According to internal documents, in one fulfillment center Amazon fired a full 10 percent of its workforce in a single year based on these tracking metrics.³¹

Amazon also maintains a notoriously draconian no-fault attendance policy that assigns workers points for missing work—regardless of the reason. Calling in sick for one shift costs an employee 1.5 points. When employees reach six points, they face termination. During the peak season, which generally runs from the Friday after Thanksgiving through Christmas, employees are typically scheduled for mandatory overtime—up to 60 hours per week—and the company severely

²⁶ “Full List of Employee Tenure at Fortune 500 Companies,” PayScale, accessed September 30, 2019, <https://www.payscale.com/data-packages/employee-loyalty/full-list>.

²⁷ Jodi Kantor and David Streitfeld, “Inside Amazon: Wrestling Big Ideas in a Bruising Workplace,” *The New York Times*, August 15, 2015, sec. Business, <https://www.nytimes.com/2015/08/16/technology/inside-amazon-wrestling-big-ideas-in-a-bruising-workplace.html>.

²⁸ Amazon.com, Inc., “Form 10-K,” 2019, <https://ir.aboutamazon.com/static-files/ce3b13a9-4bf1-4388-89a0-e4bd4abd07b8>.

²⁹ Michael J. Coren, “Amazon’s Hiring More Humans, but Robots Are Handling the Holiday Crush,” Quartz, accessed October 29, 2019, <https://qz.com/1735219/amazons-robots-may-be-handling-the-holiday-crush/>.

³⁰ Lecher, “How Amazon Automatically Tracks and Fires Warehouse Workers for ‘Productivity.’”

³¹ Lecher.

restricts workers from using their accrued time off.³²

The relentless rate, combined with constant monitoring of time off task, strict attendance policy and forced overtime through the busy peak season together have a dramatic cumulative impact on workers’ bodies. As physical fatigue from the long hours sets in during the weeks just before and after the Christmas holiday, workers experience a dramatic spike in injuries

with injury rates climbing over two-and-a-half times the annual average. And those injuries are severe: In 2018, the OSHA 300 logs that Amazon workers were able to obtain for this report recorded 93 injuries requiring workers to miss 180 or more days of work (OSHA’s cap for recording lost time injuries), and 31 percent of those injuries occurred in the month of December alone.³³

³² Isobel Asher Hamilton and Aine Cain, “Amazon Warehouse Employees Speak out about the ‘brutal’ Reality of Working during the Holidays, when 60-Hour Weeks Are Mandatory and Ambulance Calls Are Common,” *Business Insider*, February 19,

2019, <https://www.businessinsider.com/amazon-employees-describe-Peak-2019-2>.

³³ Sample includes OSHA 300A logs from 10 Amazon facilities for the year 2018.

Roadmap to Improving Health and Safety at Amazon

In just over two decades, Amazon has transformed major portions of our economy. The company has changed the way that we pick out birthday presents for our loved ones, the way that companies store and understand data, and the way that we get many products from factories to our living rooms. Amazon has built an incredibly sophisticated and efficient logistics network that is capable of getting products from our computer screens to our front doors in two days, one day, or even an afternoon. And for these impressive accomplishments, Amazon’s executives and investors have taken home hundreds of billions of dollars.

In his 2019 annual letter to shareholders, Jeff Bezos reflected on how Amazon has always worked to create a culture of builders:

“From very early on in Amazon’s life, we knew we wanted to create a culture of builders – people who are curious, explorers. They like to invent. Even when they’re experts, they are ‘fresh’ with a beginner’s mind. They see the way we do things as just the way we do things now. A builder’s mentality helps us approach big, hard-to-solve opportunities with a humble conviction that success can come through iteration: invent, launch, reinvent, relaunch, start over, rinse, repeat, again and again. They know the path to success is anything but straight.”

The work that the builders of Amazon’s empire have done over the past two decades has objectively been nothing short of amazing. The company has created and then become a leader in at least a dozen businesses that didn’t even exist two decades ago. From AI-powered talking assistants in homes around the world, to a massive

cloud computing operation that powers the CIA, to two- or one-day delivery of millions of products, Amazon has found a way to create solutions to problems we didn’t even know we had. If Amazon can accomplish so much for its shareholders, there is no reason this company cannot make its fulfillment centers and warehouses safe for workers.

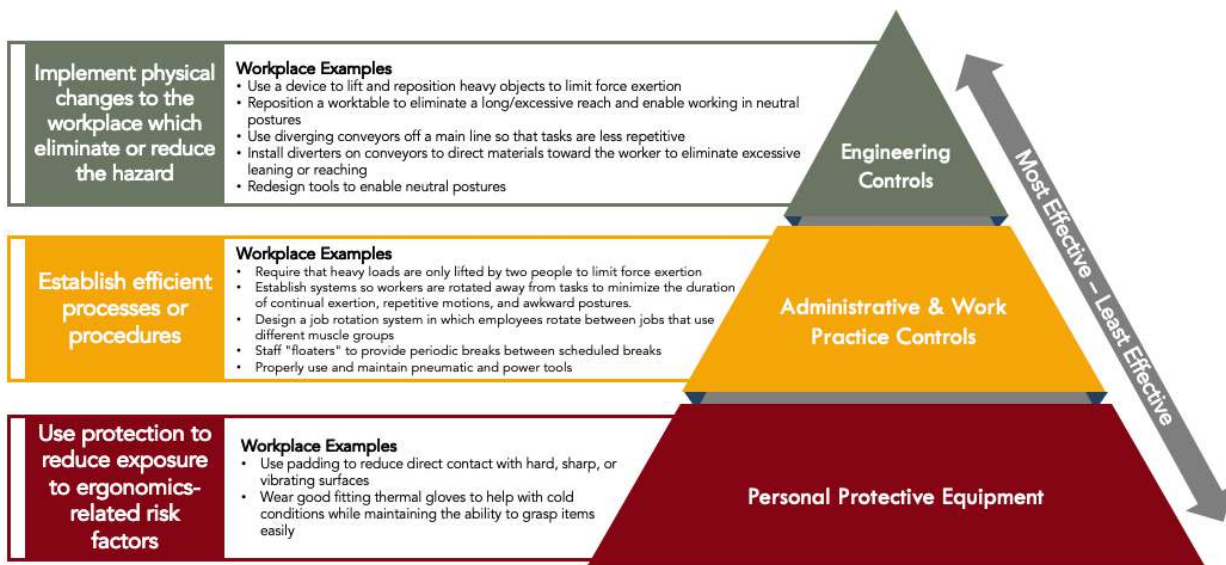
Amazon’s current approach to addressing ergonomic hazards assumes that workers are to blame for their own injuries. Managers lead stretching sessions at the beginning of shifts and instruct workers on how to lift and bend to supposedly reduce the risks of injury. But as Amazon’s records clearly show, stretching and lifting instructions are not preventing the injuries, because the injuries workers are experiencing are caused by unsafe conditions at work. Four decades of research shows that designing safer workplaces and establishing safer processes to organize the work are the most effective approaches for reducing injuries.³⁴

Amazon has a legal responsibility to eliminate ergonomic hazards in its warehouse facilities, and it must take this as seriously as it takes the work of designing the next version of Alexa. First and foremost, the company should investigate the underlying causes of these thousands of injuries and implement its workers’ recommendations for preventing additional crippling cases of back, shoulder, hand and joint injuries. It is stunning that given these high rates of disabling injuries, Amazon still has not taken responsibility for creating safe and healthy workplaces and focused its efforts on making meaningful physical changes to the workplace or changing work processes to eliminate hazards. Amazon must immediately make dramatic changes to make its warehouses and other

³⁴ Occupational Safety and Health Administration, “Ergonomics - Solutions to Control Hazards” (US Department of Labor, n.d.), <https://www.osha.gov/SLTC/ergonomics/controlhazards.html>.

facilities safer for the hundreds of thousands of workers employed in the company’s massive fulfillment operation.

Decades of Research Shows that the Most Effective Way to Reduce Injuries is to Eliminate Hazards



Amazon should build and manage safer workplaces

Many of the types of injuries that workers in Amazon facilities are suffering from most frequently—sprains, strains and tears, to the back, shoulder, knee, wrist and foot—often occur when workers are exposed to ergonomic hazards including forceful exertions, repetitive motions, twisting, bending and awkward positions and tasks. These ergonomic hazards emerge when workplaces and equipment are not designed to fit workers’ bodies and workers are forced to push, pull and lift objects, often while bending, twisting and stretching into awkward positions over and over again to complete their jobs.

Compared to other common serious and disabling workplace injuries like amputations, burns or broken bones, the injuries ergonomic hazards cause often aren’t sudden and dramatic; instead workers’ bodies gradually break down after days, weeks, and months of repetitive motions in unnatural positions. Negligent managers often blame workers themselves for failing to lift properly or complaining about painful conditions. But these kinds of injuries are the most common source of disabling worker injuries in the entire economy.³⁵

The data on injuries in Amazon’s fulfillment centers and other warehouses should be impossible to ignore. It is clear that there is something seriously wrong about the way these facilities are designed. Workers are humans, not

³⁵ Occupational Safety and Health Administration, “Ergonomics - Solutions to Control Hazards” (US Department of Labor, n.d.), <https://www.osha.gov/SLTC/ergonomics/controlhazards.html>.

robots, and work tasks should be designed to fit workers’ bodies, not force workers’ bodies to contort to fit Amazon’s equipment. Amazon should hire qualified ergonomists to collaborate with workers and engineers to identify and address the ergonomic hazards in fulfillment centers and other warehouse facilities. This could include redesigning workstations, tools, or equipment, or making changes in work methods, practices or techniques to reduce the amount of times workers are forced to twist, bend, or move into stressful postures.

Amazon must also implement administrative and work practice controls to establish safer processes and procedures in its workplace. Typically these controls include increasing the frequency or duration of breaks for workers exposed to ergonomic hazards; rotating employees to minimize the duration of continual exertion, repetitive tasks and awkward postures; and staffing jobs in a way that allows for heavy loads to be lifted by two workers to limit force exertion.

Amazon should reduce the speed of work so workers can safely perform their jobs

Combined with other ergonomic hazards like forceful exertions, repetitive motions, twisting, bending and awkward positions and tasks, the pace of work at Amazon is a risk multiplier. As pace increases, strain on joints and muscles increases, muscle fatigue sets in, and workers become much more susceptible to injury.

In fulfillment centers, Amazon pushes workers to work harder and faster by setting “rate,” or the number of tasks (for instance, pulling packages or stowing items) that supervisors require employees to perform in a shift. The company’s computers also constantly monitor workers’ “time-off-task” or the amount of time in between completing tasks. Workers are required to meet their rate goals and minimize time-off-task or face computer automated discipline or

discharge on a weekly basis. Amazon must identify and fix the hazards of fast-paced, stressful, repetitive work in its facilities, and make a commitment to preventing all injuries. No worker should be forced to sacrifice their health for a paycheck.

If workers cannot meet Amazon’s rate expectations without being injured, Amazon must reduce the rate workers are required to work and stop using rate as a tool for disciplining workers. The company should remove any rate-related discipline letters from employees’ records in any job where workers are reporting pain or injuries. Amazon managers and computer systems must provide allowances for fatigued workers to take extra breaks as needed to provide relief from arduous, hazardous workloads. These breaks must be provided with the assurances that workers will not suffer retaliation, discipline, or loss of pay—even if they would otherwise trigger warnings for “time off task.” Until Amazon can fix the underlying ergonomic hazards that are pervasive in its warehouses, such breaks will be an essential part of any effective effort to improve workplace safety at Amazon.

Further, both managers and computer systems for assigning and monitoring tasks must take into account workers’ needs for both rest breaks and reasonable workloads—based on the active input from workers, not just algorithms. If the current volume of work cannot be performed safely by the current workforce, Amazon should examine staffing levels and hire additional workers to meet demand.

Amazon should provide adequate medical care for employees who are injured on the job

When workers suffer injuries at Amazon facilities, they typically receive first-aid treatment from staff at AmCare, the company’s on-site medical units. Many of these facilities are staffed

by emergency medical technicians, not nurses or physicians. EMTs are well qualified to provide first aid but they do not have the training needed to diagnose or treat injuries and they are not licensed to practice medicine. If injuries, such as repetitive trauma disorders, are not treated early and managers force workers to return to work and be re-exposed to the same ergonomic hazards, those initial injuries can become aggravated and turn into much more severe medical problems.

Amazon should staff its AmCare with EMTs and nurses that operate under the direct supervision of a doctor. The company should also review the treatment protocols to ensure that workers are sent to see a physician if they report pain more than once to AmCare, to assure the injuries are being treated properly. Summaries of those protocols should be provided to workers who are treated at AmCare so they can be confident that the treatment or referrals that they are receiving are consistent with the protocols that have been established by a licensed physician. When AmCare staff encourages workers to seek appropriate treatment from qualified personal physicians or specialists, the company should provide the workers and their physicians with a full, detailed picture of both the work assignment and prior injury experience of workers in the same facility.

Amazon should share information on injuries with workers

OSHA requires employers to collect data on injuries and illnesses on 300 logs so workers, regulators, and employers can recognize patterns and fix hazards in workplaces. Yet, Amazon currently does not even record specific job titles for injured workers on those logs—every single employee is just listed as “Amazon Associate.” Without detailed information about where in the facility a worker was injured, it is more difficult for Amazon and workers to use these logs to identify hazards and prevent injuries.

Amazon must record more detailed information on worker titles on its OSHA 300 Logs to allow workers and Amazon to better understand the causes of injuries and make improvements. The company should also make sure that workers have access to this important information. While workers have a legal right to copies of those logs if they know to request them, few workers are notified that the logs even exist. Amazon should distribute OSHA 300 and 300A logs to every worker annually and provide training on reviewing and understanding the documents. The company should also provide comparisons of safety performance across different Amazon facilities as well as appropriate industry benchmarks along with these logs.

Amazon should take responsibility for creating safe workplaces at every level of the company—especially top management and the Board of Directors

Amazon’s own internal documents show alarming injury and illness rates across Amazon facilities with thousands of workers suffering from serious injuries every single year. Amazon’s senior leadership and Board of Directors has a responsibility to carefully oversee the company’s health and safety performance. An appropriate committee of the Board of Directors should review the company’s health and safety performance metrics quarterly and set company-wide goals for preventing workplace injuries and illnesses. A topic as important as the health and safety of the more than 600,000 people who work at Amazon is far too important to be relegated to junior executives or site-level managers.

Amazon’s shareholders also must have access to information on the company’s health and safety performance in order to assess the financial risks created by the company’s poor safety performance. Currently, Amazon does not disclose any metrics on health and safety performance that can be used to compare the

company’s performance against industry benchmarks and competitors.³⁶ Amazon should begin to publicly report on the company’s health and safety performance in its annual Environmental, Social and Governance (ESG) report to investors.

Disclosing data on the Total Recordable Incident Rates (TRIR) and Days Away, Restricted, or Transferred rates (DART) at the company’s facilities will allow investors to compare safety outcomes at Amazon’s facilities against industry benchmarks and competitors. But because these lagging indicators of safety performance tell little about the company’s efforts to prevent future injuries, Amazon should implement the recommendations in OSHA’s recent guidance document on “Using Leading Indicators to Improve Safety and Health Outcomes.”³⁷

This could include reporting information such as numbers of serious strain-and-sprain injuries investigated; the types of hazards found; the common causes of these hazards (such as excessive repetition/rate, packages stored at the wrong heights, excessive package weights given the reaches and postures involved, etc.); common solutions identified; the time taken to intervene and fix hazards after solutions found; and the results of systematic worker surveys about the usefulness of the changes. These are all common features of a data-driven, scientifically-based 21st century ergonomics program.

Amazon should listen to workers’ recommendations for improving safety

No one is better equipped to identify health and safety issues in workplaces than the

workers themselves. While Amazon does operate health and safety committees in some of its facilities, these committees have clearly been ineffective in eliminating the hazards that exist in the company’s fulfillment centers and warehouses. In facilities where workers choose to form their own, democratically elected health and safety committees, Amazon management should meet with those committees and take their recommendations seriously.

Because efforts to improve safety often break down when they are perceived as punitive for workers, worker representatives on health and safety committees should not be asked to engage in monitoring or surveillance of their coworker’s behaviors for the purposes of discipline.

Health and safety committees should receive training on best practices for identifying and addressing workplace hazards to reduce the risk of injury. The committees should also be regularly provided with health and safety performance data and aggregated data on AmCare cases to help them understand facility-wide trends. Amazon should make qualified industrial hygienists, occupational physicians, ergonomists or other appropriate health and safety professionals available to these committees to support them in their work. If worker committees choose to consult their own health and safety professionals as advisors, those professionals should be invited into the facility to participate in inspections and join meetings between the worker health and safety committees and management.

³⁶ “Sustainability,” US About Amazon, accessed November 24, 2019, <https://www.aboutamazon.com/sustainability>.

³⁷ Occupational Safety and Health Administration, “Using Leading Indicators to Improve Safety and Health Outcomes,” June 2019.

Conclusions

Over the past 20 years, Amazon has proven that it has the capacity to do incredible things, transforming key aspects of our society. The company has shown that when it makes solving a problem a priority and dedicates the resources needed to rise to that challenge it can do truly amazing things. Amazon’s own internal data shows that workers are being injured in fulfillment centers around the country at shockingly high rates. These injuries are forcing workers to miss weeks of work while they recover and, in too many cases, experience pain for the rest of their lives. And the vast majority of these injuries are preventable.

Amazon must take immediate action to eliminate hazards in its warehouses and other facilities and make its workplaces safe for workers. The company must:

- Identify and address ergonomic hazards in fulfillment centers and other facilities and implement safer workstation designs and practices **to reduce the risk of injury to workers;**
- **Reduce the speed of work** and increase break times to address the hazards of fast-paced, stressful, repetitive work in its workplaces;
- Provide **adequate medical care** for employees who are injured on the job.
- Share readily available information on injuries and illnesses with workers to allow them to **better understand the risks to which they are being exposed;**
- Ensure that senior management, the Board of Directors and shareholders all **take responsibility for creating safe workplaces;** and
- Engage with **worker-led health and safety committees** to identify and eliminate hazards in its facilities.

Each of these solutions could dramatically improve health and safety outcomes for the hundreds of thousands of workers in Amazon’s fulfillment centers and warehouse facilities. If done well, many of these changes would cost very little in comparison to the company’s annual revenues and could actually improve the efficiency and reliability of the company’s fulfillment networks. Workers are being hurt at an alarming rate and there is no good reason for Amazon not to take meaningful action to fix these hazards and make work safer.

Appendix A – Technical Note

The data set examined in this report includes OSHA 300 and/or 300A logs from 28 Amazon facilities in 16 states around the United States obtained from Amazon by current and former employees and provided to workers’ rights organizations and media outlets in summer and fall of 2019. While federal regulations require employers to provide workers with 300 and 300A logs from their workplaces covering the previous five years regardless of when they worked at the facility, in many cases Amazon unlawfully restricted workers’ access to that data by only providing records for a small portion of that window. As a result, there is significant variation in the years covered in the logs.

Because this data set is a convenience sample, not a random sample, it is possible that the safety performance in the 28 facilities in this sample is not representative of Amazon workplaces as a whole. The safety performance and the injury experience reported across the sample is relatively consistent and the data set is sufficiently large, however, so there is no reason to believe that there is any sort of systematic sampling bias in this data set. The authors would welcome the opportunity to perform a similar analysis of safety performance and injury experience at all Amazon facilities and strongly encourage Amazon management to make that data publicly available.

Calculations of injury rates including total recordable incident rate (TRIR) and days away, transferred or restricted rates (DART) are based on data from OSHA 300A logs in the sample. Calculations of injury types, dates, and severity are based on data from OSHA 300 logs in the sample. Partial year data from 2019 is included in analysis of nature of injury and body parts injured but excluded in analysis of the timing of injuries.

Facility	2014	2015	2016	2017	2018	2019 (partial year)
ABE2 – Breinigsville, PA	300, 300A	300, 300A	300, 300A	300, 300A		
ABE4 – Easton, PA			300, 300A	300, 300A	300A	300, 300A
BDL5 – Wallingford, CT		300	300, 300A	300		
BFI3 – DuPont, WA					300A	
BFI4 – Kent, WA					300, 300A	300, 300A
BOS7 – Fall River, MA					300A	
BWI2 – Baltimore, MD					300A	
CHA2 – Charleston, TN					300A	
DEN2 – Aurora, CO				300, 300A	300, 300A	300
DEN3 – Thornton, CO					300, 300A	
DFW7 – Fort Worth, TX					300A	

Facility	2014	2015	2016	2017	2018	2019 (partial year)
EWR4 – Robbinsville, NJ					300A	
FAT1 – Fresno, CA					300A	
FTW3 – Fort Worth, TX					300A	
JFK8 – Staten Island, NY					300A	300A
IND5 – Indianapolis, IN	300	300	300	300		
LGA9 – Edison, NJ					300, 300A	
LGB3 – Eastvale, CA					300A	
MDW4 – Joliet, IL					300, 300A	300
MKE1 – Kenosha, WI		300, 300A	300, 300A		300A	
MSP1 – Shakopee, MN				300, 300A	300, 300A	
MSP5 – Shakopee, MN		300	300, 300A	300, 300A	300	
OAK4 – Tracy, CA					300A	
ONT6 – Moreno Valley, CA			300, 300A	300, 300A	300, 300A	300
PDX5 – Hillsboro, OR				300A	300A	
PDX9 – Troutdale, OR					300A	
SMF1 – Sacramento, CA					300A	
TPA2 – Lakeland, FL					300A	