### Tackling it together: Integrated strategies for mental health and MSD in the workplace

MSD Prevention Works: Past, Present and Future CRE MSD, Ontario, Canada Tuesday 1 October 2024

Presented by Professor Jodi Oakman Ergonomics, Safety and Health School of Psychology and Public Health La Trobe University, Australia



#### #3 Hard Work



@caiman35 (Venezuela)





@rufusa (Nigeria)

#25 Cleaning Service



#6 Harvesting Red Chilies



@azimronnie (Bangladesh)

#18 Women At Work



@sandipani\_c (India)

**#20** Drying The Crackers



@dharmaku (Indonesia)





@pokokemoto (Indonesia)

#16 Cultivation



@myothet (Myanmar)

#### **#5** The Doctors



@gaukhar\_yerk (Kazakhstan)

### **#13** Forged In Fire



@nico\_edhi (Indonesia) #21 Salt Harvest



@dungpham (Vietnam)

#26 Making Tofu



@ajuriaguerra

@baliphotographer (Bali)



Housatonic Railroad, 1881 Image: Railroad History Archive



Child labourers during the Industrial Revolution Image: Lewis Hine/The U.S. National Archives



Assembly line workers inside the Ford Motor Company factory at Dearborn, Michigan (Image credit: Hulton Archive/Getty Images)



Simpson's Gloves Pty Ltd, Richmond, circa 1932













#### FOURTH INDUSTRIAL REVOLUTION

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What is 'Industry 4.0' and what does it mean for front-line workers?



Charlotte Edmond Senior Writer, Forum Agenda

This article is part of: World Economic Forum Annual Meeting

Impact

INDUSTRIES IN DEPTH

### Al for agriculture: How Indian farmers are harvesting innovation

WORLD ECONOMIC FORUM

Published Jan 11, 2024 · Updated Sep 10, 2024



JOBS AND THE FUTURE OF WORK
What is 'Industry 4.0' and what will it mean

for developing countries?



Shamika Sirimanne Director of Technology and Logistics, UNCTAD • We are living Industry 4.0 •

 We are living at the beginning of a new technological revolution around Industry 4.0 technologies such as artificial intelligence (Al), robotics, and the Internet of Things (loT).

### What are Musculoskeletal Disorders (MSDs)?



### Causes of Musculoskeletal Disorders (MSDs)



http://ohsbok.org/downloads/33%20Models%20of%20Causation%20Health%20Determinants.pdf

## Workplace hazards



Common psychosocial hazards

www.worksafe.vic.gov.au/psychosocial-hazards-contributing-work-related-stress

## Why does musculoskeletal pain matter?

 LBP was the leading cause of YLDs from all conditions studied in GBD 2017

### Global Burden of Disease (GBD)

The GBD study is the largest and most comprehensive effort to quantify health loss across places and over time, so health systems can be improved and disparities eliminated.

## Psychosocial hazards: a case study



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### Regulators struggle to rein in Amazon on safety for warehouse workers

Former safety regulators say the government faces an uphill battle

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ΞQ



Tahsha Sydnor sorts packages at an Amazon warehouse facility in 2019, in Goodyear, Ariz. (Ross D. Franklin/AP)

By <u>Caroline O'Donovan</u> Updated September 18, 2023 at 2:50 p.m. EDT | Published September 18, 2023 at 10:00 a.m. EDT

SAN FRANCISCO — Amazon on Monday began publicly defending its safety record at a hearing in Washington state that follows more than a decade of complaints about workplace conditions across the country.

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#### 😽 · Topics · Safety and PPE

### Amazon workers in Quebec sound safety alarm ahead of Prime Day

Employees allege roadblocks in reporting injuries and overly demanding expectations



By Shane Mercer 08 Jul. 2024 / Share f

As Amazon's Prime Day on July 16 approaches, Amazon workers in Quebec are voicing serious concerns about workplace safety and the handling of injury claims. Despite Amazon's assurances of prioritizing safety, workers' testimonies and experiences tell a different story, highlighting systemic issues in making workplace injury claims with Quebec's workplace health and safety regulator, CNESST.



BUSINESS Economy Economic Policy Personal Finance Work Technology Business of Climate

### Bernie Sanders launches Senate investigation into Amazon labor practices

The probe is the latest in a series he has launched against major companies since becoming chairman of the Senate HELP Committee

G 5 min ↔ □ □ 168



Sen. Bernie Sanders (I-Vt.) on Capitol Hill this month. (Jabin Botsford/The Washington Post)

By Lauren Kaori Gurley and Caroline O'Donovan Updated June 20, 2023 at 12:24 p.m. EDT | Published June 20, 2023 at 10:31 a.m. EDT

Sen. Bernie Sanders (I-Vt.), the chairman of the Senate Committee on Health, Education, Labor and Pensions, launched an investigation this week into the nation's second-largest employer, Amazon, and the

### FIGURE 4. AMAZON AND WALMART: WORK IMPACTS ON PHYSICAL AND MENTAL HEALTH

Sources: National Survey of Amazon Warehouse Workers and National Survey of Walmart Warehouse Workers



At Work and Under Watch: Surveillance and Suffering at Amazon and Walmart Warehouses

### FIGURE 5. AMAZON AND WALMART: TYPES OF PAIN EXPERIENCED

Sources: National Survey of Amazon Warehouse Workers and National Survey of Walmart Warehouse Workers





#### TECH

### Amazon's focus on speed, surveillance drives higher warehouse worker injuries, study finds

PUBLISHED WED, OCT 25 2023-12:57 PM EDT | UPDATED WED, OCT 25 2023-4:11 PM EDT

Annie Palmer @IN/ANNIERPALMER/

#### KEY POINTS

 Amazon warehouse workers are suffering physical injuries and mental stress on the job as a result of the company's extreme focus on speed and pervasive surveillance, according to a study its authors say is the largest nationwide survey of Amazon workers. WATCH LIVE

- Nearly 70% of Amazon employees in the survey said they've had to take unpaid time off due to pain or exhaustion suffered on the job in the past month, while 34% have had to do so three or more times.
- The data adds to a drumbeat of scrutiny around Amazon's workplace safety and treatment of warehouse employees.

## Meanwhile here in Canada...



by Adam D.K. King

ebruary 10, 2023 · 5 min read

Q SIGN IN BECOME A MEMBER

### Amazon Canada's Injury Rate May Obscure More Than It Reveals

The labour insurance compensation system incentivizes employers to hide accidents and pressure vulnerable people not to submit claims.

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#### NEWS

### Amazon Ordered to Pay \$5 Million After Over a Thousand Injuries Involving Ontario Warehouse Workers

New workplace injury data shows Amazon warehouses in Ontario were linked to over 1,300 injuries last year





NEW: Leaked documents show how Amazon's automated systems force Canadian warehouse workers to scan boxes faster or face 'termination'.

X

"You're never able to shut off that voice in your head that's telling you 'you're not working fast enough!"

#### pressprogress.ca/leaked-documen... #canlab





# Effect sizes – psychosocial vs biomechanical hazards

Lower Back	Biomechanical (n=12, k=30)			. F	•		
	Psychosocial (n=12, k=31)			• • • • • • • • • • • • • • • • • • •			
ck/ ulder	Biomechanical (n=14, k=44)			⊢_●(			
Nec	Psychosocial (n=14, k=52)						
oer nb	Biomechanical (n=7, k=28)			► 	_		
Upp Lin	Psychosocial (n=7, k=30)		F				
eral	Biomechanical (n=7, k=10)			 	•		
Gen	Psychosocial (n=7, k=30)			↓ ↓↓			
		0	0.5	1 1	1.5	2	2.5

Oakman et al., under review at Applied Ergonomics

## Key measurement issues & challenges

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Applied Ergonomics Volume 100, April 2022, 103614

Workplace physical and psychosocial hazards: A systematic review of evidence informed hazard identification tools

Jodi Oakman <sup>a</sup>  $\stackrel{ ext{algebra}}{\longrightarrow}$  , Victoria Weale <sup>a</sup>, Natasha Kinsman <sup>a</sup>, Ha Nguyen <sup>b</sup>, Rwth Stuckey <sup>a</sup>

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#### https://doi.org/10.1016/j.apergo.2021.103614 🤊

Highlights

- A matrix of 26 validated tools was developed for workplace practitioners.
- Sixteen physical hazard risk assessment tools were included.
- Only three comprehensive tools were identified which supported all stages of risk management.
- Gaps exist in currently available tools to support workplace practitioners.

## The right to disconnect

JOBS AND THE FUTURE OF WORK

### Right to disconnect: The countries passing laws to stop employees working out of hours

Feb 3, 2023



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British firm ordered to pay €60,000 by French court for breaching employee's 'right to disconnect' from work

Henry Samuel, PARIS

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France's Supreme Court ordered British firm to pay ex-employee €60,000 for breaching 'right to disconnect' from phone calls | CREDIT: ALAMY

he French wing of British pest control and hygiene giant Rentokil Initial has been ordered to pay a former employee €60,000 (£53,000) because it failed to respect his "right to disconnect" from his phone and computer outside office hours...

## The costly problem of time theft

- Australians are clocking up over 5 hours of unpaid, after hours work every week.
- This 'availability creep' or 'time theft' amounts to 281 hours of unpaid labour per worker per year.
- This costs workers an average of \$11,000 Australian – or around \$10,000 Canadian dollars – annually.



But what exactly will the new laws mean for Australian businesses, managers and employees?

### Right to disconnect origins

Right to disconnect laws were first introduced in <u>France</u> in 2017 in response to concern about the welfare of workers who were increasingly connected to their workplaces as a result of expanding digital technologies.

John L. Hopkins does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations beyond their academic appointment.







## **APHIRM Toolkit Stages**



The APHIRM Toolkit

### Stages

## Workplace Hazard Categories

Types of workplace hazards

(a) Manual handling hazards ... task specific

(b) Psychosocial hazards ... 2 sub-groups:

- **Organisational** work organisation, job design
- Social context- support, communications, relationships with managers

### Type of hazard (number of items)

Physical task demands (12 items)

Physical environment, equipment (6 items)

Emotional demands (2 items)

Workload - Quantitative demands (3 items)

Work rate, pace (3 items)

Influence/Control (3 items)

Role clarity (3 items) Leadership: support, communications (3 items)

Organisational justice (3 items)

Meaning of work (2 items)

Illegitimate tasks (1 item)

Role conflict (1 item)

Co-worker relationships, teamwork (3 items)

Recognition, Feedback (2 items)

Vertical trust (1 item)

Skill utilisation, development (2 items)

Sufficient training (1 item)

Amount of variety (1 item)

Opportunities for promotion (1 item)

Job Satisfaction (1 item)

Work-life balance (1 item)

Vibration (1 item)

Bully and Harassment (3 items)

Total of 59 items



## Ratings of Discomfort /Pain

HOW OFTEN have you felt discomfort or pain?

AND For each area where you've felt it (that is – where you circle 1 or higher) HOW BAD has it been?

Total score /60



## Ratings of Stress

12 items never, occasionally, sometimes, often, almost always

Total score /48

During the last 6 months, how often have you ... Felt worn out? Been physically exhausted? Been emotionally exhausted? Felt tired? Had problems relaxing? Been irritable? Been tense? Had problems concentrating? Found it difficult to think clearly?

Found it difficult to think clearly? Had difficulty in taking decisions? Had difficulty with remembering? Had difficulty in falling or staying asleep?







### Stage 2: Survey

### **WORKPLACE SURVEY**

WORKGROUP: PCAs

### Help us find better ways to reduce work-related pain and discomfort

We will be running an online survey to help us identify hazards in the workplace that are causing pain or discomfort, which can lead to injury.

This survey includes hazards that are non-physical (e.g. aspects that increase stress or frustration) as these have been proven to be significant.

The survey is generated by the APHIRM Toolkit, an integrated package developed by LaTrobe University, based on the latest evidence-based research into workplace health and safety.

Find out more about the APHIRM Toolkit at www.aphirm.org.au

### HOW TO START YOUR SURVEY

VISIT THIS LINK OR SCAN THE CODE https://workgroup.aphirm.org.au/6dxcfy2d

SURVEY PERIOD: 4 Sep 2024 to 5 Sep 2024



THIS SURVEY WILL BE ANONYMOUS AND PRIVATE None of your responses can be linked to you personally.

### THANK YOU

Your participation in the survey is important. We recognise that every employee has a unique perspective on the workplace, and your anonymous survey answers will provide insight that will help us make meaningful improvements.

### ADHIKM

### 

### SURVEY RESULTS

25

Workgroup: PCAs Survey period: 4 Sep 2024 to 5 Sep 2024

People in any workplace can suffer from aches and pains or work-related mental health problems for many different reasons.

20 95

These results show workplace hazards that may be causing or contributing to this problem.

### **AVERAGE DISCOMFORT/PAIN**

SCORES BY BODY REGION Neck & shoulders 4.5 Arms 2.9 Middle to lower back 2.3 Hands or fingers 5.2 Hips, bottom, feet 3.3

### TOTAL SCORE: 18.2

completed a survey

Scores are averaged over those who reported some discomfort/pain. Each body region score is the product of frequency and severity ratings (out of 12). The overall score is out of 60 (5 body regions x 12)

Number of people that Respondents that reported

some discomfort / pain

### **AVERAGE STRESS/MENTAL HEALTH**

#### AVERAGE SCORE: 25.4

Each question is scored with regard to frequency (out of 4). The overall score is out of 48 (12 questions)

### **TOP MSD HAZARDS**

The following hazards were identified by the workgroup and are related to increased MSD risk.

(NOTE: The causes of discomfort/pain can include psychosocial stress as well as 'manual handling' hazards.)

1	Too much work for time available				
2	Often lift or carry moderately (or very) heavy things				
3	Go faster for deadlines or target quotas ALSO MH				
4	Often push or pull things with some force ALSO MH				
5	Unpleasant arguments or conflicts				

### **TOP MENTAL HEALTH HAZARDS**

The following hazards were identified by the workgroup and may increase risk to mental health.

(NOTE: The causes of work-related stress/mental health problems can include physical as well as psychosocial hazards.)

1	Often push or pull things with some force ALSO MSD					
2	Often squat or kneel while working					
3	Keep repeating same movements/actions, very repetitive					
4	Go faster for deadlines or target quotas ALSO MSD					
5	Work at fast pace for whole shift					



#### FEEDBACK SUMMARY

Workgroup: Storeperson assembler Report date: 24 Sep 2019

Group feedback responses: 0	Individual responses: 17	RMT responses: 16	
Hazard #1 Often lift or carry moderately (or very) heavy	Which tasks require frequent moderate or heavy lifting or carrying?	How could this lifting/carrying be reduced? Automate or change the work? Reduce the	
things	Box size is too big for heavy articles [RMT C. Morgan]	weight? Change workstations or tools? Do it less often, or for shorter times?	
	Need to carry heavy boxes from floor to picking table <i>(RMT C. Morgan)</i>	Use smaller boxes for heavy articles [RMT C. Morgan]	
	15kg boxes over a broad shelf makes it difficult [Individual]	Make overhang on shelf less so bending is no required [Individual]	
	test answer (Individual)	testing solution [Individual]	
	have to carry heavy boxes [Individual]	test solution [Individual]	
	testing feedback [Individual]	make boxes smaller [Individual]	
	testing feedback [Individual]	testing feedback [Individual]	
	They can easily add more feedback up until feedback is closed for that assessment, in the Toolkit App. [Individual]	testing feedback 2 [Individual]	
Hazard #2	Which tasks or activities require twisted or	How could twisted/awkward postures be	
Often work with twisted or awkward postures	have to bend down between shelving units	Change workstations or tools? Do it less often, or for shorter times?	
		Change positioning of shelves [RMT N. Kinsman]	
Hazard #3	Which tasks or activities require forceful	How could this pushing/pulling be reduced?	
Often push or pull things with some force	pushing or pulling? Old trolleys have wheels that don't turn property (RMT N, Kinsman)	Automate or change the work? Reduce the force needed? Change workstations or tools Do it less often, or for shorter times?	
	bobol ( funt of superior)	Scheduled maintenance of warehouse equipment including trolleys. [RMT N. Kinsman]	
Hazard #4	Which tasks or activities require working with	How could the need to raise arms so high be	
Often work with arms raised above shoulder level	arms above shoulder level? lifting [Individual]	Change workstations or tools? Do it less often, or for shorter times?	
	looking [Individual]	Make it easier [Individual]	





FEEDBACK SUMMARY Storeperson assembler September 24, 2019 Page 1 of 2

APHIRM Toolkit © Copyright La Trobe University



### **ACTION PLAN SUMMARY**

Workgroup: Storeperson assembler Report date: 24 Sep 2019

Using feedback from the w been developed to address survey and reduce MSD risk	3		
	Actions proposed	Hazards being addressed	
Action #1 New trolleys	RELATED HAZARD: Hazard #1 Often lift or carry moderately (or very) heavy things DESCRIPTION:	MEASURE OF SUCCESS: Trolleys have been purchased and staff using them.	
	Purchase new trolleys so that staff use these instead of carrying boxes.		
Action #2	RELATED HAZARD: Hazard #1	MEASURE OF SUCCESS:	
decrease box size	Often lift or carry moderately (or very) heavy things	reduce weight of boxes	
	DESCRIPTION: make boxes smaller		
Action #3	RELATED HAZARD: Hazard #2	MEASURE OF SUCCESS:	
Shelf positioning	positioning Often work with twisted or awkward postures		
	<b>DESCRIPTION:</b> Change position of shelves so that boxes are more easily accessed.		
Action #4	RELATED HAZARD: Hazard #3	MEASURE OF SUCCESS:	
Regular maintenance of trolleys	Often push or pull things with some force	Staff member allocated and	
-	DESCRIPTION: Allocate staff member to be responsible for trolley maintenance, check on a weekly basis and address any issues as they arise.	trolleys all working effectively.	

### Stage 4: Action plan



LA TROBE

APHIRM Toolkit © Copyright La Trobe University



### Summary of participants



By sector

Health care & social assistance	369		
Mining	<b>80</b> 616 (89%)		
Manufacturing	<b>57</b> 602 (91%)		
Transport, postal & warehousing	<b>85</b> 498 (85%)		
Other	<b>29</b> 541 (95%)		
Public administration & safety	<b>38</b> 285 (88%)		
Electricity, gas, water & waste	9 252 (97%)		
Construction	<b>22</b> – 192 (90%)		
Professional, scientific &	5— 105 (95%)		
Accommodation & food services	<b>13</b> — 75 (85%)		
Agriculture, forestry & fishing	8-74 (90%)		
Education & training	4-61 (94%)		
Administrative & support services	<b>-3</b> <sup></sup> 62 (95%)		
Financial & insurance services	8 16 (67%)		
Arts & recreation services	0 22 (100%)		

### By occupation



## Hazard factor scores by profile

• Three-profile solution identified, with patterns of high (Profile 3), medium (Profile 2), and low (Profile 1) scores across all hazard factors



## Profile membership and MSP

Profile membership significantly associated with pain, controlling for gender, age, employment length, and work hours

	Model 1 (crude)		Model 2 (adjusted)	
	RR	95% CI	RR	95% CI
Profile 1	Reference	-	Reference	-
Profile 2	1.60***	1.47–1.75	1.65***	1.52–1.80
Profile 3	2.61***	2.35–2.90	2.79***	2.50–3.10

\*\*\*Significant at .000 level

#### Applied Ergonomics 112 (2023) 104053



Psychosocial hazards play a key role in differentiating MSD risk levels of workers in high-risk occupations

Jodi Oakman<sup>®</sup>, Wendy A. Macdonald, Kate McCredie Centre for Ergonomics and Human Factors, School of Psychology and Public Health, La Trobe University, Bundoora, 3086, Australia





## **Case studies**

## www.aphirm.org.au/resourcespubli cations



## THE APHIRM TOOLKIT:

helping workplaces to reduce musculoskeletal disorders

aphirm.org.au

#### #30 Iron Works



@jayanath2000 (Sri Lanka)





@recaear (Central Java)

#31 Untitled



#27 Fish Dryer



@tutul1410 (Bangladesh)

#38 Respect Every Work



@vellmarty (Ghana)

#### #47 Harvest Time For Tomatoes



@koi\_harvey60 (Philippines)

#35 Female Factory Workers



@ginyu21 (Indonesia)

#### #40 It's My Charcoal



@bastian\_as (Indonesia)

#41 Working 2



@marklaszlo76 (Romania)

#### #43 No Different Man And Woman In Work Time



@pcd (Bangladesh)

#46 Batik Tulis



@dikyedarling (Jakarta)

#45 The Workman Moves The Ice To The Car



@andrydenisah



## Thank you



@rollimages (Dubai)