WORK HEALTH AND SAFETY RESEARCH HORIZON SCAN, SCOPING REVIEW AND EVIDENCE GAP MAPPING PROJECT

Executive summary

A report prepared for Safe Work Australia

ACADEMY OF THE SOCIAL SCIENCES IN AUSTRALIA

ATSE

About this project

This project was commissioned by Safe Work Australia, and it maps the existing landscape of work health and safety and workers' compensation research across the five Safe Work Australia *Research and Evaluation Strategy* initial priority areas to provide a data driven understanding of the current evidence base, gaps, and emerging research areas.

This report was developed with guidance from an Expert Working Group of experts from across work health and safety research and related areas. The Academy of the Social Sciences in Australia and the Australian Academy of Technological Sciences and Engineering gratefully acknowledges the Expert Working Group for their contributions.

Expert Working Group Members
Professor Peng Bi FASSA
Professor Alex Collie
Professor Maureen Dollard FASSA
Professor Andrew Neal FASSA
Professor Sharon Parker FASSA
Professor Michelle Tuckey
Professor Mark Wooden FASSA

Report prepared by Dr Harry Rolf, Dr Honae Cuffe, Nicola Smillie and Olivia Allen

Date of publication
April 2026

Publisher
Academy of the Social Sciences in Australia
3/95 Northbourne Ave
Turner ACT 2612
Australia
www.socialsciences.org.au

Citation
Academy of the Social Sciences in Australia. (2026). *Work health and safety research horizon scan, scoping review and evidence gap mapping project: Executive summary.*
https://doi.org/10.60651/3SK8-XD65

Table of contents

Introduction 3

Key findings 4

Mapping WHS research in Australia 5

Research priorities 5

Drivers of change 6

Results of scoping reviews, horizon scans and gap mapping 8

The psychosocial harm prevention and recovery 10

Advances in technology 10

Shifting mindsets around WHS fundamentals 10

Effectiveness of systems and frameworks 11

Changing nature of work 11

Analytical framework and methodology 12

Expert guidance and peer review 12

Policy-led taxonomy development 13

Integrated analytical design 13

Dataset construction and screening 13

Tagging and bibliometric mapping 14

Lessons learnt 15

Future directions 16

Introduction

This report provides an executive summary of the Horizon Scanning and Evidence Gap Mapping Project, conducted by the Academy of the Social Sciences in Australia in partnership with Safe Work Australia (SWA) between August 2025 and March 2026 and with support from the Australian Academy of Technological Science and Engineering (ATSE).

The project establishes, for the first time, a systematic baseline of Australian work health and safety (WHS) and workers' compensation research across SWA's five research priority areas, as defined in the *Research and Evaluation Strategy.*[1] It examines how research conducted by Australian researchers, or focused on the Australian context, aligns with these priorities and assesses the extent to which the existing evidence base addresses a selection of drivers of change case studies likely to shape WHS over the next decade.

To achieve this, the project strategically integrates three complementary methods:

- A taxonomy-led scoping literature review to identify and classify the breadth and distribution of WHS research in Australia.
- Horizon scanning, using case studies to test the visibility of drivers of change within the evidence base.
- An evidence gap mapping process to identify differences between research activity, research priority areas, and drivers of change expected to impact WHS in Australia over the next decade.

The project was guided by an Expert Working Group (EWG) comprising leading experts in WHS, workers' compensation and related fields. The EWG provided expert input and academic oversight throughout the project, with guidance and endorsement sought at key stages including methodology design, interpretation of findings, and development of conclusions and recommendations for SWA. In addition, independent peer reviewers from the ATSE contributed specialist review, ensuring that perspectives on technological transformation were appropriately embedded within the analysis.

The report opens with **Key Findings**, summarising patterns across SWA's five research priority areas and the selected drivers of change. The **Technical Overview Report** then outlines how activity is distributed across priorities and how examples of established, emerging and new drivers of change are reflected in the evidence base. This is followed by the **Analytical Framework and Methodology**, which explains how the scoping review, horizon scan and evidence gap mapping were designed and applied under the oversight of the EWG. The report concludes with **Future Directions** and **Lessons Learned**, reflecting opportunities for future research and methodological refinement.

---

[1] *Safe Work Australia "Research and Evaluation Strategy" last modified June 11, 2025, https://www.safeworkaustralia.gov.au/doc/research-and-evaluation-strategy.*

Key findings

This project provides a map of Australian WHS research and evaluation and examines how it aligns with SWA's five research priority areas and related drivers of change. By using SWA's five research priority areas to guide the search and analysis, the project organises a large and diverse body of research in a consistent way, helping to identify where research activity has been concentrated, where it is more limited, and where it does not neatly align with the language of the priority areas.

The mapping shows that WHS research in Australia is genuinely multidisciplinary, has grown steadily over the past fifteen years, and is now being published at a consistent and sustained rate. It shows that the evidence base spans health sciences, management, engineering and social sciences, demonstrating established research capacity across the breadth of WHS subjects. The analysis also highlights that how research is labelled matters. The WHS evidence base is extensive, but variation in terminology and disciplinary framing means relevant studies may sit across adjacent fields and can be harder to identify through structured searches.

All five research priority areas are represented in the evidence base but to varying extents. Psychosocial harm prevention and recovery has the largest and most developed body of research. Advances in technology and shifting mindsets around WHS fundamentals are also well represented, often through organisational, health and safety climate research. Research relating to the effectiveness of systems and frameworks, and to the changing nature of work, is present but comparatively smaller in scale and not only focused on examining the impacts of reform, harmonisation or emerging employment models. This does not necessarily indicate an absence of relevant research, but may reflect how existing work is framed and captured within the scope and methods applied in this project.

Examining the evidence base against a sample of five WHS-relevant drivers of change shows varying levels of research coverage and attention. Psychological injury and Respect@Work are clearly reflected in current research. Algorithmic management in gig work, generative AI and electrification and emerging hazards are visible but represented by a relatively small number of recent studies. **Across these drivers of change, research commonly examines specific hazards or worker level outcomes than how risks interact** and shift across industries, technologies and work arrangements, or how WHS and workers' compensation systems operate in practice under changing conditions.

Overall, the **findings indicate that Australia's WHS research base is broadly aligned with SWA's research priority areas** and selected WHS-relevant drivers of change. There are opportunities ahead to build on this foundation through deeper qualitative analysis of research quality, expansion of the evidence base, or regular updates to the mapping to monitor change over time, alongside ensuring that research remains closely connected to evolving challenges for policy and decision makers. **Ongoing collaboration** between governments, employers, workers and researchers can support this by aligning around shared priorities as work continues to evolve.

Four key areas for further exploration have emerged from this exercise.

Future directions for Australia's WHS evidence base
There is an **opportunity to better connect research with policy needs to enhance the visibility and connection of relevant WHS evidence**. This includes further collaboration with the broader research community to clarify shared language and coordinate research translation activities that would help ensure that existing WHS evidence is not only visible, but interpretable and actionable for policy, regulatory and practice decision-making.
Greater emphasis on system-level challenges will be important as work environments evolve. Many studies focus on individual workers or specific hazards. Fewer examine how regulatory frameworks, organisational arrangements and workers' compensation systems effectively manage known risks or how they adapt under changing technological and employment conditions. **Emerging drivers of change provide opportunities to test system resilience and the adaptive capacity of WHS.**
Emerging WHS risks require ongoing, sophisticated monitoring as their impacts will continue to evolve in ways that are difficult to anticipate. **Tracking and anticipating unintended consequences will require greater emphasis on qualitative, participatory and system-level research that captures lived experience.**
The **multidisciplinary character of Australia's WHS research base is a significant strength**. However, it **also means that related topics are often studied separately and described using different language.** As a result, important topics can appear fragmented across the research landscape. By **strengthening coordination and synthesis across disciplines, the WHS evidence base can be made more coherent, relevant and responsive**.

Mapping WHS research in Australia

Research priorities

The project is structured around the five research priority areas identified in SWA's *Research and Evaluation Strategy*. The strategy sets a national framework for strengthening the evidence base that supports WHS and workers' compensation policy, with the aim of fostering innovative, and high-quality research that drives safe and healthy work.

The strategy recognises that improving WHS outcomes depends on a connected research ecosystem spanning regulators, policymakers, researchers, industry, worker representatives, practitioners and compensation schemes. It identifies initial research priority areas where coordinated research effort is expected to deliver national value and support evidence-informed decision-making.

The five research priority areas are:

1. **Psychosocial harm prevention and recovery** – expanding the evidence base around effective systemic controls/regulation to reduce psychosocial harm in workplaces and enable faster recovery when it does occur.
2. **Advances in technology** – how technological advances (e.g. AI, automation, automated machines) might affect policy approaches, enable improved hazard identification, give rise to new WHS risks, and/or enhance health and safety outcomes.
3. **Shifting mindsets around WHS fundamentals** – shifting behaviours and mindsets to increase understanding and capability around fundamental duties and obligations for risk management and injury recovery – across small businesses to large enterprises, from workers and supervisors to middle management, senior leaders and boards.
4. **Changing nature of work** – how safety regulation and compensation frameworks might adapt to better accommodate the changing nature of work (e.g. gig work, compressed weeks, non-traditional employment, multiple jobs, working from home, complex supply chains, multi-regulated sites).
5. **Effectiveness of systems and frameworks** – better understanding the effects and impacts of changes to the legislative frameworks (e.g. where harmonisation could be strengthened, gaps between expectations and reality, determining optimal models for injury management, bridging gaps in compensation policy evidence).

Across all five priorities, the strategy also highlights the importance of considering emerging health and safety challenges or developments and the needs of workers in vulnerable settings.

Through a scoping literature review, this project assessed the extent to which the identifiable Australian WHS research evidence base aligns with these research priority areas, how research activity is distributed across them, and where areas of strength or evidence gaps are visible.

Drivers of change

In addition to examining research activity across SWA's five research priority areas, the project investigated drivers of change expected to influence WHS and workers' compensation systems in Australia over the next decade.

The selection of case study topics was undertaken in consultation with SWA and the project's EWG and through review of WHS horizon scanning literature, an initial list of fifteen topics was assessed, and five were selected to inform horizon scanning (See Table 1 for additional information about the drivers of change selected). Each was chosen for its relevance to national or international policy discussions, its cross-fit to one or more research priorities, and its likely persistence over the medium to long term. Case studies were paired with a priority area to test their relevance within the existing evidence base.

Driver of change	Evidence of relevance to WHS	Case Study	Priority area
The impact of psychosocial harm on recovery and work participation.	The European Agency for Safety and Health at Work report (2024), *Towards a Safe and Healthy Future of Work: Evolution or Revolution?*, identifies mental health and psychosocial risk as ongoing challenges within evolving work systems.[2]	Psychological Injury & Increasing Time Off Work	The sustained rise in psychological injury claims and extended time away from work reflects broader changes in work organisation and psychosocial risk exposure. The Psychological Injury and Increasing Time Off Work case study lets us assess whether research is focusing on the impact of psychosocial harm on recovery and work participation.
Artificial intelligence and cognitive automation in work design.	The European Agency for Safety and Health at Work, OSH Pulse (2025), *Occupational Safety and Health in the Era of Climate and Digital Change*, identifies AI as a key driver of change for WHS.[3]	Generative AI (GenAI) and Work Design	The rapid integration of generative AI tools reflects a broader trend toward cognitive automation and human–machine collaboration. The GenAI and Work Design case study provides a lens to examine whether research is responding to cognitive automation and AI-enabled work design.
Cultural transformation and gender equity in workplaces.	Felknor et al. *Four Futures for Occupational Safety and Health* (2023), identifies evolving workforce values and expanding definitions of occupational risk as key forces shaping WHS.[4]	Respect@Work Inquiry (AHRC, 2020–2021)	The Australian Human Rights Commission (AHRC), *Respect@Work Inquiry* (2020) reflects a broader shift toward recognising psychosocial harm, including sexual harassment, as a core organisational responsibility within WHS systems.[5] The Respect@Work case study provides a lens to assess whether research is responding to psychosocial harm and workplace cultural transformation following the Inquiry.

[2] *Institution of Occupational Safety and Health (IOSH). Towards a Safe and Healthy Future of Work: Evolution or Revolution? Leicester: IOSH, 2024. https://iosh.com/media/45eog02b/towards-a-healty-future-of-work.pdf.*

[3] *European Agency for Safety and Health at Work (EU-OSHA), OSH Pulse 2025: Occupational Safety and Health in the Era of Climate and Digital Change (Luxembourg: Publications Office of the European Union, 2023), https://osha.europa.eu/en/publications/osh-pulse-2025-occupational-safety-and-health-era-climate-and-digital-change.*

Driver of change	Evidence of relevance to WHS	Case Study	Priority area
The energy transition and introduction of new energy materials.	Rosmuller (2025), *Sustainable Mobility and Its Consequences for Occupational Safety and Health*, identifies the shift to new energy systems as generating emerging risk and governance challenges.[6]	Electrification & Emerging Hazards	The transition toward renewable energy systems and electrified transport is introducing new materials and technologies into workplaces. This case study uses electrification as a lens to assess whether research is responding to the emerging risk profiles associated with new energy materials and systems.
Platformisation and algorithmic control of labour.	The European Agency for Safety and Health at Work's report (2015) *Foresight on New and Emerging Occupational Safety and Health Risks Associated with Digitalisation by 2025,* identifies platforms and algorithmic management as key developments likely to alter working conditions and risk.[7]	Algorithmic Management in Gig Platforms	The expansion of gig platforms has introduced new forms of work organisation in which task allocation, performance monitoring, and remuneration are governed by algorithms. The Algorithmic Management in Gig Platforms case study provides a lens to see whether research is responding to platform-based work and algorithmic forms of managerial control.

Table 1: This table presents case studies and drivers of change along with the associated priority area, providing a brief rationale for each case study's selection and the relevant horizon. It also includes the number of related publications in the sample and the driver's perceived status based on publishing frequency seen in the sample – listed as established, emerging, or new.

---

[4] *Felknor, Sarah A., Jessica M. K. Streit, Nicole T. Edwards, and John Howard. "Four Futures for Occupational Safety and Health." International Journal of Environmental Research and Public Health 20, no. 5 (2023): 4333. https://www.mdpi.com/1660-4601/20/5/4333.*

[5] *Australian Human Rights Commission, Respect@Work: National Inquiry into Sexual Harassment in Australian Workplaces (Sydney: Australian Human Rights Commission, 2020), https://humanrights.gov.au/resource-hub/by-resource-type/publications/sex-and-gender-rights/sex-and-gender-rights/respectwork-sexual-harassment-national-inquiry-report-2020.*

[6] *Rosmuller, Nils. Sustainable Mobility and Its Consequences for Occupational Safety and Health. Discussion Paper. Bilbao: European Agency for Safety and Health at Work (EU-OSHA), 2025. https://osha.europa.eu/en/publications/sustainable-mobility-and-its-consequences-occupational-safety-and-health.*

[7] *European Agency for Safety and Health at Work (EU-OSHA), Foresight on New and Emerging Occupational Safety and Health Risks Associated with Digitalisation by 2025 (Luxembourg: Publications Office of the European Union, 2018). https://osha.europa.eu/en/publications/foresight-new-and-emerging-occupational-safety-and-health-risks-associated*

Results of scoping reviews, horizon scans and gap mapping

The scoping review identified a sample of 7,027 Australian WHS research publications between 2010 and 2025. These were mapped against the five priority areas and case studies to examine distribution and alignment. An overview of the results from this analysis is presented below, and an overview of the project's approach is provided in the following Analytical framework and methodology section. Refer to the accompanying **Technical Overview Report** for a detailed description of the analysis and methods. Publication volume shows research intensity, while term coverage indicates conceptual breadth and maturity within each priority area.

Priority	Publications	% of total pubs	Terms
Priority 1: Psychosocial harm prevention and recovery	1,232	18%	117
Priority 2: Advances in technology	563	8%	85
Priority 3: Shifting mindsets around WHS fundamentals	733	10%	106
Priority 4: Effectiveness of systems and frameworks	398	6%	90
Priority 5: Changing nature of work	152	2%	82

Table 2: This table presents the results of screening publications for priority area relevance. The Publications column shows the number of publications screened into each priority area (total publications is 7,027), % of total pubs shows the publication as a proportion of total publications screened into each priority area, and the Terms column shows the number of terms from the combined taxonomy associated with publications in each priority area (total terms is 304). Note that priority areas may share publications and terms.

Bibliometric analysis of the sample shows significant growth in Australia's WHS evidence base over the last two decades, with the sample showing year-on-year increases in publication outputs between 2010 – 2020, and a consistent and mature level of publishing activity in the last five years 2021 – 2025 (Figure 1).

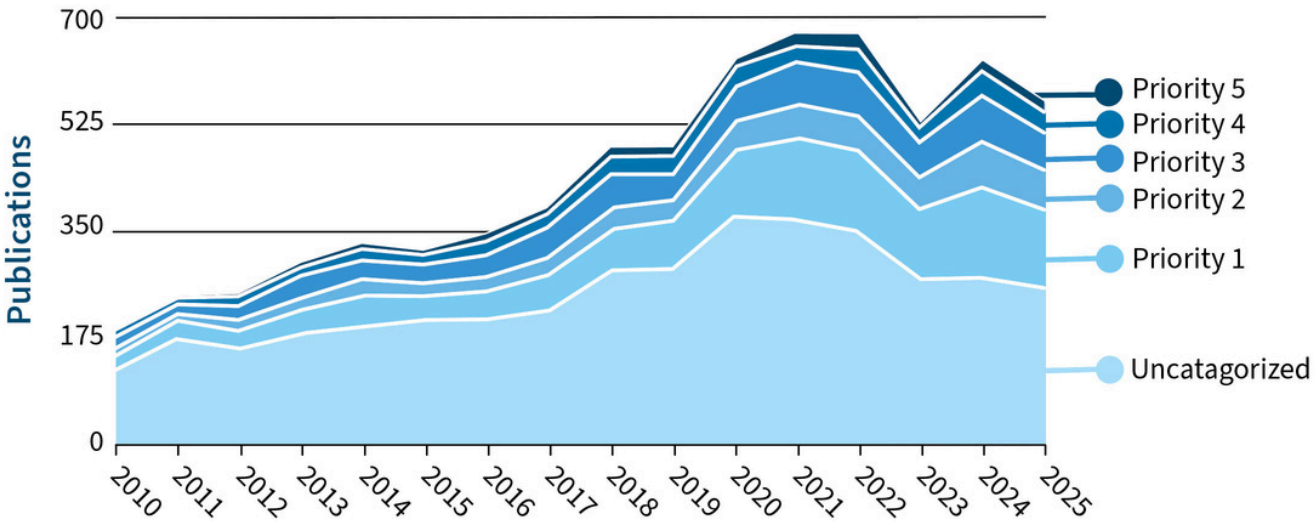

Figure 1: Stacked area chart showing the proportion of publications per year in each priority area, uncategorised publications are those in the sample that were not screened into a priority area category but are still related to WHS research. These publications typically address cross-cutting themes such as employment arrangements, organisational practices, work design, productivity, workload or worker health outcomes. See the accompanying Technical Overview report.

The sample indicate that WHS research in Australia is broad and multi-disciplinary, with 68% of publications having at least one ANZSRC 2020 Field of Research (FoR) code,[8] and 31% having more than one (Table 3). Tagging of the sample with terms from the taxonomy further supported this, the top ten most frequent terms appeared in the titles and abstracts of publications associated with all five priority areas (Figure 2), and the total number of terms associated with publications related to each priority area was also remarkably similar, ranging from 48% - 69% of all terms. On the other hand, key terms such as surveillance, productivity, workload, heat stress, extreme weather, are tagged in the sample but are not consistently screened into a single priority area. This indicates that key policy-aligned WHS topics are being studied but have not yet been explicitly framed as WHS system issues.

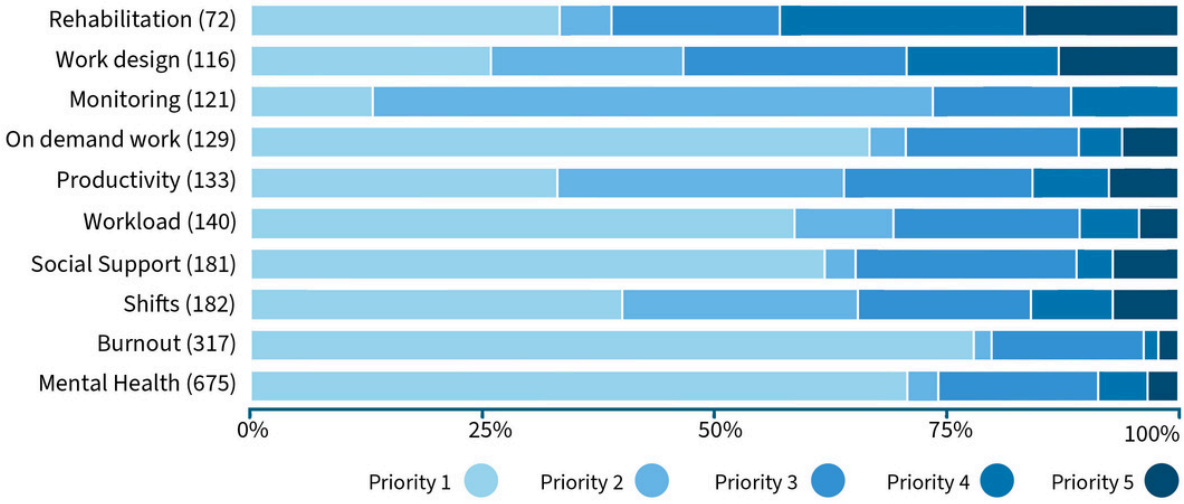

Figure 2: This stacked bar chart shows the proportion of terms associated with publications in each of the five priority areas, it shows that terms are cross-cutting and speaks to the multi-disciplinary nature of WHS research. Terms (y-axis) also have their frequency displayed (frequency) for reference. See the Research Priorities section for details of priorities listed.

Code	Field of Research	Total Publications	% of total
42	Health Sciences	3,624	52%
32	Biomedical and Clinical Sciences	1,885	27%
35	Commerce, Management, Tourism	1,419	20%
40	Engineering	453	6%
52	Psychology	451	6%

Table 3: A table showing the top five two-digit FoR codes present in the sample, the number of associated publications and the proportion of total publications in the sample with that code. FoR codes are provided by Dimensions.ai.

However, closer inspection of the sample shows clear differences in the evidence bases for each of SWA's five research priority areas, and the status of drivers of change investigated. Taken together, this indicates that the current WHS research landscape is conceptually interconnected across priority focus areas and reinforces the need for SWA's future policy and evidence generation to cut across focus areas rather than treating priorities in isolation.

---

[8] *Australian Bureau of Statistics. Australian and New Zealand Standard Research Classification (ANZSRC), 2020: Fields of Research (FoR). Cat. no. 1297.0. Canberra: ABS, 2020. https://www.abs.gov.au/statistics/classifications/australian-and-new-zealand-standard-research-classification-anzsrc/latest-release.*

Psychosocial harm prevention and recovery

Case study: Psychological Injury and Increasing Time Off Work

Psychosocial harm prevention and recovery accounted for 1,232 publications (18% of the sample). This is the largest and most developed research area within the evidence base. Dominant terms include mental health, workload, burnout, shifts and social support, which was to be expected. This reflects a well-established focus on psychosocial hazards, mental health outcomes and individual-level risk factors. However, the maturity of this broader psychosocial literature does not extend evenly to the specific focus of this priority area on effective systemic controls and regulatory approaches. This distinction is important for interpreting the breadth of psychosocial literature overall and the more limited evidence that directly addresses the priority area's specific focus on effective systemic controls, regulation and system-level prevention and recovery.

The Psychological Injury and Increasing Time Off Work case study is strongly embedded within this priority area. Of the 210 publications identified as relevant to this case study, most overlap with the psychosocial priority area and date back to 2010. The volume and continuity of publishing in this case study indicates that this is an established field of WHS research in Australia. However, much of this work focuses on individual-level outcomes, with comparatively less attention to organisational design, regulatory settings or compensation system performance.

Advances in technology

Case study: Generative AI (GenAI) and Work Design

The advances in technology priority area included 563 publications (8% of the sample). Frequently occurring terms include monitoring, ergonomics, robotics, machine learning and productivity. Research in this area forms a distinct cluster within the broader evidence base, often connected to engineering and applied health sciences. Taken together, the findings indicate that Australian WHS research is well positioned to understand incremental and task-level technological change, but comparatively less developed in relation to technologies that alter the structure and governance of work.

The case study on Generative AI and Work Design identified only 10 publications within the sample, all published in recent years. This suggests that while technological change is a visible theme, some specific drivers of change are only beginning to be reflected in peer-reviewed WHS research. The limited number of studies published in recent years indicates a relatively new area of attention for WHS research in Australia.

Shifting mindsets around WHS fundamentals

Case study: Respect@Work

A total of 733 publications (10% of the sample) were identified under the priority area of shifting mindsets around WHS fundamentals. Frequently occurring terms include safety climate, burnout, mental health and social support. Terms such as leadership, consultation, accountability and representation were present in the dataset, but they were less often the primary focus of study. Instead, they commonly appeared within broader psychosocial or organisational research. This indicates that workplace culture and leadership are being examined within the evidence base, but not always explicitly framed in ways that align with concepts of fundamental WHS duties and the associated capabilities and mindsets of leaders and their organisations.

The Respect@Work case study identified 49 relevant publications, most published following the 2020–21 Inquiry. This shows that workplace culture, sexual harassment, leadership and accountability have received increased research attention in recent years, particularly in response to policy developments. Instead of using traditional WHS language about capability, competence, or work systems, this research talks about mindsets and behaviours through concepts such as power, gender inequality, leadership behaviour, organisational culture, and whether workers feel safe to speak up. These studies treat issues like respect, culture, and responsibility as discrete problems, rather than as secondary factors linked to WHS systems and outcomes.

While this research is highly relevant to shifting mindsets around WHS fundamentals, it is framed using social, cultural, and individual rights-based language rather than terminology in the policy-led WHS taxonomy.

Effectiveness of systems and frameworks

Case study: Electrification and Emerging Hazards

The effectiveness of systems and frameworks priority area included 398 publications (6% of the sample). While regulatory frameworks, workers' compensation and safety management systems were frequently referenced in the literature, they were less often the primary subject of analysis. Research tends to examine hazards, injuries or workplace practices within the context of systems and frameworks, rather than evaluating how systems perform under changing conditions.

The Electrification and Emerging Hazards case study identified 8 relevant publications, with many in recent years. These focus primarily on technical safety risks associated with lithium-ion batteries and electric vehicles. There is limited evidence of research examining how regulatory or compensation systems adapt to energy transition. This suggests that electrification and emerging hazards represents an emerging area of WHS research in Australia, with current studies primarily focused on technical risks, there is an opportunity for system-level research to emerge. This pattern suggests an evaluation gap: systems are widely referenced and operationalised, but comparatively less attention is directed toward assessing how they perform, adapt or remain fit-for-purpose as work environments change.

Changing nature of work

Case study: Algorithmic Management in Gig Platforms

The changing nature of work priority area accounted for 152 publications (2% of the sample), making it the smallest of the five priority areas. While terms such as remote work, gig work and on-demand work appear within the dataset, they do so at relatively low frequency. Several expected concepts including labour hire, subcontracting, multi-party agreements and multiple job holding were not strongly represented in the sample. This may not indicate that research doesn't exist, rather that it is hard to identify or are found outside of our sample.

The Algorithmic Management in Gig Platforms case study identified 6 publications, all from recent years. This suggests that WHS research into platform-mediated work is relatively new in Australia, with limited coverage. This suggests that the Australian WHS evidence base provides a foundation for understanding established presentations of changing work, but offers only limited insight into how complex, digitally mediated and multi-party employment arrangements may reshape accountability, risk allocation, and regulatory effectiveness.

Analytical framework and methodology

The analytical framework underpinning this project is documented in the **Horizon Scan and Search Taxonomy Methodology** report and **Scoping Literature Review Methodology** report and elaborated in the accompanying **Technical Overview** report, which provides detailed documentation of taxonomy development, search strategy, screening methodology, tagging processes, and bibliometric outputs. Individual reports for each of the five priority area provide detailed interpretation and gap analysis within each research priority area, supported by case study findings. Together, these reports provide a structured, data-driven account of how Australia's WHS research landscape aligns with policy priorities and future evidence needs. This section provides a concise summary of the process undertaken for this research.

Expert guidance and peer review

The project was guided by an Expert Working Group (EWG) comprising leading experts in WHS and related research, policy, and practice. The EWG provided academic oversight, offering guidance and expert advice on priority area interpretation, taxonomy development, methodological design and interpretation of findings. Regular group and one-on-one meetings throughout the project ensured transparency in decision-making and peer review of draft and final outputs.

Expert Working Group members

Professor Peng Bi FASSA, Professor of Public Health, Adelaide University

Professor Alex Collie, Professor and Director of the Healthy Working Lives Research Group, Monash University

Professor Maureen Dollard FASSA, Director, Psychosocial Safety Climate Observatory and Professor of Work and Organisational Psychology, Adelaide University

Professor Andrew Neal FASSA, Professor of Business and Organisational Psychology, University of Queensland

Professor Sharon Parker FASSA, Director, Centre for Transformative Work Design and John Curtin Distinguished Professor of Organisational Behaviour, Curtin University

Professor Michelle Tuckey, Professor of Work and Organisational Psychology, Adelaide University

Professor Mark Wooden FASSA, Emeritus Professor, Melbourne Institute of Applied Economic and Social Research, University of Melbourne

*The Academy of the Social Sciences in Australia would also like to acknowledge **Professor Richard Johnstone** for his contributions to the early taxonomy development and **Ms Denise Goldsworthy AO, FTSE, Professor Melinda Hodkiewicz FTSE,** and **Dr Goran Roos FTSE** for their independent, specialist peer review.*

Policy-led taxonomy development

The project began with development of a structured taxonomy derived from SWA's five research priority areas and a review of relevant Australian policy, regulatory and strategic documentation. Seed terms were drawn from authoritative sources across the WHS ecosystem, including regulators, standards bodies, national research agencies, professional associations and selected international organisations. This ensured that the taxonomy reflected both established Australian usage and emerging global concepts.

The taxonomy includes 304 terms in primary or related categories. The taxonomy was iteratively tested against the literature retrieved through Dimensions.ai, with refinements made based on screening outputs and concept co-occurrence analysis.[9] The taxonomy forms the structural backbone of search, tagging, and evidence gap mapping, with policy-led WHS terminology that operationalises the conceptual boundaries of each priority area.

Integrated analytical design

The methodology integrates three complementary components: a taxonomy-led scoping literature review, horizon scanning using selected case studies, and structured evidence gap mapping across each of the five research priority areas.

The scoping review provides a systematic, retrospective map of the existing Australian WHS evidence base. The horizon scan adopts a forward-looking lens, testing the visibility of examples of drivers of change within that evidence base. Evidence gap mapping then overlays research activity, priorities and drivers of change to assess areas of strength, sparsity or alignment.

This integrated design enables direct comparison of coverage, density and alignment across priority areas, while linking current research activity to emerging policy challenges.

Dataset construction and screening

A structured search strategy using Dimensions.ai identified an initial corpus of publications relevant to WHS in Australia between 2010 and 2025 (see Figures 4 and 5). Records were screened for eligibility using AI-assisted classification involving four independent large language models, which assessed whether publications constituted primary research, secondary research or were not relevant to WHS.[10] Agreement thresholds were applied to assess classification confidence, with human review undertaken for records falling below these thresholds. Following screening, 7,027 records were retained in the final sample used for analysis.

---

[9] *Dimensions.ai is a is a comprehensive, AI-powered research information platform that hosts the largest collection of interconnected global research data, including journal publications, conference proceedings, grants, clinical trials, patents, and policy documents.*

[10] *Zhilong Zhao and Yindi Liu, A Confidence–Diversity Framework for Calibrating AI Judgement in Accessible Qualitative Coding Tasks (Guangzhou: School of Journalism and Communication, South China University of Technology, 2025). https://doi.org/10.48550/arXiv.2508.02029.*

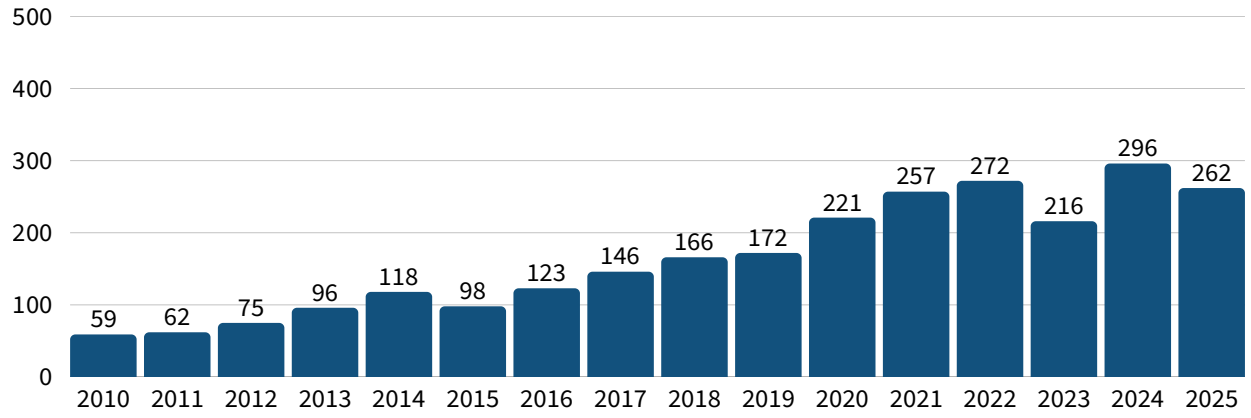

Figure 4: This histogram chart shows the number of included (screened) publications (y-axis) by year of publication (x-axis).

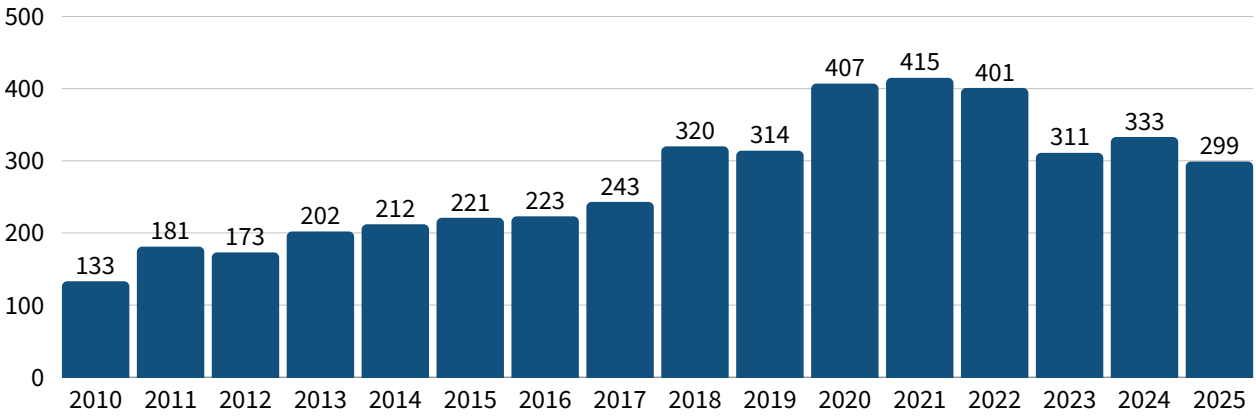

Figure 5: This histogram chart shows the number of excluded (unscreened) publications (y-axis) by year of publication (x-axis). Taken together, the histograms of included and excluded records show an increasing screening rate of publications over time and that gap between included and excluded records narrows. This may be attributed to the contemporary nature of SWA's research priority areas, and suggests they are aligned to an extent with the focus of current WHS research.

Tagging and bibliometric mapping

Each record screened for inclusion was tagged against the policy-led taxonomy of 304 terms. In total, 7,043 tags were assigned to 3,871 records in the dataset, with 68% having at least on tag, and 31% having more than one. Figure 6 shows the flow of the 3,871 records in the sample into each of the five research priority areas.

Additionally, bibliometric mapping was used to identify concepts arising from record titles and abstracts, mapping identified six major conceptual clusters across the dataset with a strong health care, mental health and psychosocial focus, confirming the strength of health science and psychosocial research in the sample.

The dual approach of taxonomy-based tagging and literature-led concept mapping enables identification of both policy-aligned terms and structural characteristics of the evidence base. The full results are presented in **Horizon Scan and Search Taxonomy Methodology** and **Technical Overview** reports, with breakdowns by research priority area in the five priority area reports.

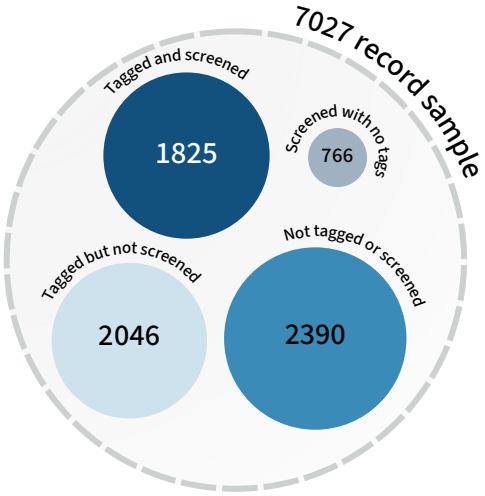

Figure 6: This figure presents a breakdown of the results of record tagging and screening for the sample of 7,027 records. It shows the number of records tagged and screened (1,825), tagged but not screened (2,046), screened without any tags (766) and those not tagged or screened (2,390). Screened records were included for analysis, and unscreened excluded. Note that tagging occurred separately to screening, and so records not screened also had tags.

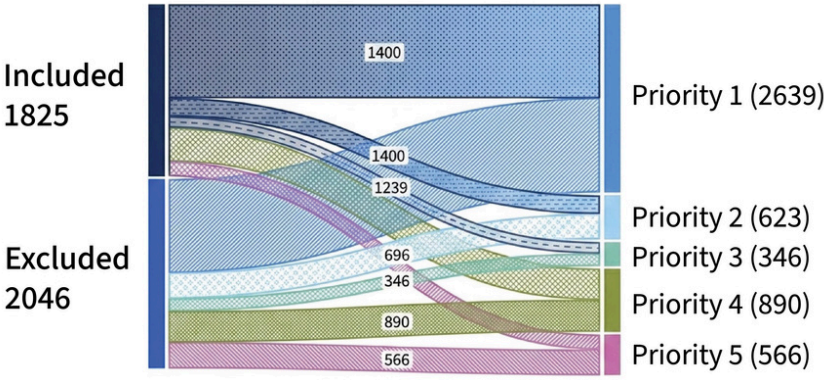

Figure 7: This sankey diagram shows the distribution of the 3,871 tagged records in the sample, categorised by their screening status (Included vs. Excluded) and their flow into the five research priority areas.

Lessons learnt

The scope and design of this project highlight important lessons about what structured evidence mapping can achieve within reasonable constraints.

By using SWA's five research priority areas to guide our search, we were able to organise a large body of research in a consistent way. This helped to identify where research is concentrated, where it is more limited, and where it does not neatly match the language of the priority areas. The process also showed that how research is labelled matters. The WHS evidence base is immense, and language use varies across fields. Relevant studies may exist, but if they use different terms or sit in adjacent disciplines, they can be harder to identify through structured searches. As such, findings should be seen as one of many inputs for future decision-making, with this work providing a structured snapshot rather than a comprehensive benchmark or maturity assessment of the evidence base.

We focused primarily on published and grey literature indexed in Dimensions.ai. This allowed us to build a transparent and replicable dataset. However, it means the findings reflect the identifiable academic evidence base within the parameters we defined, rather than all forms of WHS knowledge in Australia. For example, practice-based literature, including regulator guidance, evaluation reports, industry research, union and employer publications, and commissioned reviews, captures how WHS policies, systems and interventions operate in real-world settings. This literature often provides earlier signals of emerging risks, implementation challenges and system performance that are not yet reflected in published peer-reviewed research. Incorporating selected practice and other sources of information would complement the current research methodology and findings.

The use of automated screening tools allowed us to review thousands of publications **quickly, consistently, and at a scale that would not have been feasible through manual review alone.** Comparison with manual review indicated approximately 70% agreement between automated and human classification decisions. For the purposes of large-scale evidence mapping, this level of agreement was sufficient when combined with targeted human review and oversight. The approach demonstrated that **AI-assisted panel methods can significantly accelerate structured and repeatable screening at scale, but still rely on informed human judgement to maintain analytical quality.**

Our horizon scanning tested known drivers of change against the current evidence base. Where research coverage was limited, this was interpreted as an indication that the issue is new or still emerging. The exercise reinforced that academic research often lags rapid technological, social and organisational change. However, limited literature should be interpreted cautiously. In some cases, it may reflect timing; in others, it may indicate that the issue has not yet gained sustained academic attention or simply has not been captured through the methods used.

Similarly, the current project had a deliberate focus on Australian research, defined as research conducted by Australian researchers or explicitly referencing the Australian context. While international perspectives were included at earlier stages of the project through the use of international material to identify seed terms and in selecting drivers of change case studies that aligned with global trends, international coverage was not systematically included in the scoping literature review. This limited scope was necessary to ensure relevance to Australian national policy and to keep the project feasible within available time and resources. Future work could build on this foundation by incorporating international literature that could provide useful insights into system design, policy effectiveness and emerging risks that are not yet visible in the Australian research activity.

Overall, this project establishes a baseline picture of how Australian WHS research aligns with **SWA's research focus areas and selected WHS-relevant drivers of change**. Future work could build on this foundation through deeper qualitative analysis of research quality, expansion of the evidence base, or regular updates to the mapping to monitor change over time, and thorough evaluation of the methods employed, particularly the use of automation in literature screening and classification.

Future directions

This exercise shows that the Australian WHS and workers' compensation evidence base is strong, multidisciplinary and broadly aligned with national WHS research priorities. It also shows that there may be **benefits to the future development of Australia's WHS evidence base by strengthening integration across WHS research domains.**

First, **there is an opportunity to better connect research with policy needs to enhance the visibility and connection of relevant WHS evidence.** In some areas, relevant research already exists but is described using different terms or disciplinary framings than those used in SWA's research priority areas. Bringing this work together and clarifying shared language would make it easier for policymakers and practitioners to identify and apply the evidence. Here there is **an opportunity for further collaboration with the broader research community to frame this work as research translation that would help ensure that existing WHS evidence is not only visible, but interpretable and actionable for policy, regulatory and practice decision-making.**

Second, **greater emphasis on system-level challenges will be important as work environments evolve.** Many studies focus on individual workers or specific hazards. Fewer examine how regulatory frameworks, organisational arrangements and workers' compensation systems effectively manage known risks or how they adapt under changing technological and employment conditions. As generative AI, algorithmic management and complex employment structures expand, understanding how the whole system responds will become increasingly important. **Emerging drivers of change such as energy transitions and algorithmic management provide opportunities to test system resilience and the adaptive capacity of WHS.**

Third, emerging WHS risks require ongoing and more sophisticated monitoring. While psychosocial harm, compounding hazards, digital and artificial intelligence are visible in the evidence base, their impacts will continue to evolve in ways that are difficult to anticipate.

This will require greater emphasis on qualitative, participatory and system-level research that captures lived experience of workers and employers. This is particularly important as responsibilities and risks become dispersed across increasingly complex employment structures, such as supply-chain arrangements and other multi-employer or casualised work settings, creating gaps where WHS duties are diffuse or contested. As innovation and technologies such as generative AI are embedded in everyday work, WHS increasingly operates as a sociotechnical system shaped by the interaction of governance arrangements, organisational practices, employment rights and worker experience.

Finally, **the multidisciplinary character of Australia's WHS research base is a significant strength,** spanning health sciences, engineering, organisational studies and regulatory scholarship. **However, it also means that related topics are often studied separately and described using different language.** As a result, important topics such as system effectiveness, cultural change and new forms of work can appear fragmented across the research landscape. Future effort may be best directed toward bringing these strands together by connecting research on technology, regulation, employment arrangements and worker health into clearer, shared conversations.