

# Modern slavery risks in the higher education sector

## Biomaterials and Biotechnology



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**\$12.3 billion** in revenue was generated by Australia's biotechnology industry in 2025.<sup>1</sup>

**83.4%** growth in the number of Australian biotechnology enterprises occurred from 2008 to 2022.<sup>2</sup>



### What is modern slavery?

Modern slavery is a serious violation of an individual's dignity and human rights. Exploitative practices, including human trafficking, forced labour, child labour, debt bondage and forced marriage, are all considered modern slavery and are serious crimes under Australian law.

### Regulatory context



#### Modern Slavery Act 2018 (Cth)

Organisations, including universities, based or operating in Australia with at least AU\$100 million in annual consolidated revenue are required to report annually on the steps they have taken to identify and address modern slavery risks in their operations and supply chains. See [Commonwealth Modern Slavery Act Guidance for Reporting Entities](#).



#### Modern Slavery Act 2018 (NSW)

Certain universities in NSW have due diligence reporting obligations under the NSW Modern Slavery Act to ensure the goods and services they procure are not the product of modern slavery. See [NSW Anti-slavery Commissioner's Guidance on Reasonable Steps to Manage Modern Slavery Risks in Operations and Supply-Chains](#).

### Modern slavery risks in the biomaterials and biotechnology sector



#### Forced Labour

Equipment needed for medical research, such as surgical devices, personal protective equipment and electronics, has been linked to [forced labour](#) in the supply chain. Collection of workers' biometric data, such as fingerprints, may also enable coercion, through tracking and restricting of workers' movements.



#### Organ and Tissue Trafficking

International medical collaborations and clinical research can inadvertently facilitate [organ trafficking and forced organ harvesting](#) when conducted with third-parties or when sourcing human biomaterials from high-risk countries. Organ trafficking is the illicit removal, transport, and sale of human organs involving coercion for transplantation or profit.

### Why is the sector high risk?



**Research inputs, such as lab materials or human biomaterial such as blood sample and DNA**, may have been sourced in exploitative conditions, under coercion or duress or [without informed consent](#).



**Biometric research outputs** may be used inadvertently for human rights harm, such as [mass population genomic surveillance](#) and tracking with no or limited control over how samples are collected, stored and used.



**Participants may not be able to give free and informed consent** for the use of biomaterial samples or participation in clinical trials, especially in countries with documented state sponsored human rights violations.

<sup>1</sup> [The U.S.-Australia Strategic Innovation Alliance: Bioeconomy in Australia Factsheet](#), Council on Competitiveness, 2025

<sup>2</sup> [Biotechnology in Australia - Market Research Report \(2015-2030\)](#), IBISWorld, 2025

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How modern slavery and human rights risks in the biotechnology and biomaterials sector may be linked to universities

### Procurement

Universities may be linked to modern slavery risks along their supply chains, including in the manufacturing of components, final assembly of products and in the labour to deliver services on campus.

<b>Product, Sector &amp; Geographic Risk</b>	<p>Sourcing equipment or software without adequate due diligence:</p> <ul style="list-style-type: none"><li>• <b>Medical and lab equipment</b> has been linked to child labour (e.g. <a href="#">Child labour in manufacturing of surgical instruments in Pakistan</a>)</li><li>• <b>Personal protective equipment</b> has been linked to forced labour and child labour, particularly rubber gloves and cotton used for PPE (e.g. <a href="#">forced labour in the manufacturing of rubber gloves in Malaysia</a>).</li><li>• <b>Extractives and chemicals used in research</b>, such as <a href="#">plastics</a>, <a href="#">biofuels</a>, <a href="#">resins</a> and <a href="#">mica</a> have documented links to forced labour and child labour in the supply chain.</li><li>• <b>DNA databases and biosensors</b> may use hardware (semiconductors, sensors, batteries) produced with forced labour. <a href="#">Exploitative labour practices</a> and child labour has been reported in manufacturing of electronic components and in the mining and processing of critical minerals needed for ICT hardware, such as <a href="#">cobalt</a>.</li></ul> <p>A full list of products linked to forced labour and child labour can be found <a href="#">here</a>.</p>
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### Teaching & Research

Universities may be linked to modern slavery risks and adverse human rights impacts, through their teaching and research activities and partnerships. Risks often intersect with other human rights concerns and counterparty risks related to sensitive technologies, sanctions and national security.

<b>Research Development &amp; Application Risks</b>	<p>Research without adequate due diligence of the partner, design or application:</p> <ul style="list-style-type: none"><li>• <b>Clinical trials</b>, outsourced to third-parties and carried out overseas, may be conducted without <a href="#">adequate informed consent or safeguarding</a>, particularly where there may be power dynamics involved between researcher and participant, for example with children, people with a disability or from culturally and linguistically diverse or Indigenous communities (e.g. <a href="#">cervical cancer vaccination trials conducted on over 20,000 girls in India without informed consent</a>).</li><li>• <b>Biometric data</b>, including DNA, fingerprint, face and retina scans, provided by third party agencies for research may be collected under coercive conditions or without adequate informed consent, particularly when vulnerable groups, such as <a href="#">Indigenous peoples</a>, <a href="#">refugees</a> or people in <a href="#">conflict zones</a>, are involved (e.g. <a href="#">journal retracts article on genetic data from China's Uyghur population over ethical concerns the research could be used to enable mass surveillance</a>).</li><li>• <b>Research into human tissue, stem cells and organ transplants</b> may be linked to <a href="#">organ trafficking</a> and nonconsensual use of human biomaterials through use of international third-party providers and unverified sourcing of biomaterials (e.g. <a href="#">cadavers were sold, without families' consent, to a biomaterials firm supplying the medical industry and university researchers</a>).</li><li>• <b>Research outputs sharing biometric data</b>, particularly if a third-party owns the intellectual property, may be inadvertently used to carry out surveillance of vulnerable populations and identify and detain activists and human rights defenders (e.g. <a href="#">EU deploys biometric technology to track refugee and migrant children</a>)</li></ul>
<b>Partnership Risk</b>	<p><b>Partnering with companies with links to human rights violations:</b></p> <ul style="list-style-type: none"><li>• The U.S. has <a href="#">sanctioned</a> several companies and research institutions involved in biotechnologies, including DNA tracing and facial recognition software, over links to surveillance and human rights violations of Uyghur and other ethnic minorities in the Xinjiang Uyghur Autonomous Region, China.</li></ul>

### Case study

This case study has been developed using publicly available reports. It is intended solely for illustrative purposes and does not represent any specific university, supplier, or partner organisation.

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An academic journal article was recently retracted over concerns with informed consent. The research, funded by a foreign government, used blood samples from 300 children from a persecuted minority group.

Despite obtaining written consent from the children's parents, the journal considered that pervasive surveillance and oppression of these groups by the government in the country in which the research was undertaken impacted the ability to give free and informed consent. There were also concerns that power dynamics involved between the international researchers and the children and their parents, who were from low socio-economic backgrounds and receiving compensation for the samples, raised ethical concerns.

Media and human rights organisations highlighted a risk that the research outputs, and sharing of the children's data, could enable the foreign government to carry out further surveillance, racial profiling and human rights harm of the persecuted minority.

### Learn more

- [Universal Declaration on Bioethics and Human Rights](#), UNESCO, 2005.
- [Do No Harm: Legal Advisory Report on Ethical Medical Collaborations in the Field of Organ Transplantation](#), Global Rights Compliance, 2022.
- [Modern Slavery in the Health Services Sector](#), Australian Human Rights Commission and KPMG, 2021.
- [Forced Labour in the Malaysian Medical Gloves Supply Chain](#) - Modern Slavery & Human Rights Policy and Evidence Centre, 2021.
- [Guidelines for the Use of Forensic Genetics in Investigations into Human Rights and International Humanitarian Law Violations](#) - International Committee of the Red Cross, 2019.

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