



About ADM+S

The ARC Centre of Excellence for Automated Decision-Making and Society (ADM+S) is a new, cross-disciplinary, Australian national research centre funded by the national Australian Research Council (ARC) (<https://www.admscentre.org.au/>). The Centre aims to create the knowledge and strategies necessary for responsible, ethical, and inclusive automated decision-making. It brings together leading researchers in the humanities, social and technological sciences in an international industry, research and civil society network.

The production and circulation of research and information, and the platforms, technologies and algorithms that deliver them, is a key concern of ADM+S, particularly what they mean for society and particularly vulnerable populations. We therefore welcome the Inquiry of the United Nations Special Rapporteur on the Rights of Persons with Disability as they relate to Artificial Intelligence (AI/ML) and Automated Decision Making (ADM).

This submission has been by various researchers of the Centre, and reflects the views and opinions of the authors, and does not reflect an official position of the Centre (as that has not been sought). The submission is based on research being conducted by the researchers within the Centre and on their general expertise in the topic area, and draws from empirical research on AI/ADM in government, not-for-profit and commercial organisations.

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Responses to the UN Special Rapporteur Questionnaire

The question of the relationship between AI, ML and ADM and the rights of persons with disabilities is not easy to answer given the huge diversity and complexity of (a) AI/ML/ADM; (b) the ways and purposes in which they are deployed, and (c) of the realities, experiences and impairment diversity of persons with disability. For instance, voice activated technologies can provide enhanced usability, access and rights for visually impaired persons, while simultaneously foreclosing those very experiences for d/Deaf and hearing impaired persons.

The operations of AI, ML and ADM (hereafter ‘machines’) reignite and recalibrate the longstanding challenges of disability rights in relation to the differences between equality (treated equal) and equity (treated differently for the purposes of equality). This is particularly the case for persons with disabilities from socio-cultural and linguistically diverse communities, who are rarely considered in either disability and/or AI, ML and ADM co-design. Machines that operate more-or-less equally across the population can exclude persons with disability, as in the case of people with visual impairment and viewing Facebook Ads (Appendix 2) or not taking account of the distinct needs of people with impairment or mental health in employment services (Casey 2021) or social security eligibility assessment and debt recovery (Appendix 3). Conversely, designing machines that differentially respond to people’s experiences can generate and reinforce discrimination and rights violations, such as is illustrated in concerns about racial and ethnic minority bias (Noble 2018) even when machines are intentionally designed with a view to counter discrimination and rights infringements (Benjamin 2019).

There is concern among scholars and activists interested in the social justice implications of AI, ML and ADM that these machines have particular difficulty in accurately handling diversity and complexity in human needs, preferences and characteristics. By way of illustration, Professor Jutta Treviranus uses the symbol of a “human starburst” to depict the range of preferences and requirements of a given population (Treviranus 2020). She notes that if we were to plot these data points, the majority (80%) would cluster near the middle of the starburst, while 20% would be scattered closer to the outer edges of the remaining space. People who deviate from the statistical “norm” appear as outliers in the data. This includes people whose bodily movements, facial expressions, gait or voice may fall outside the parameters that demarcate “normal” bodily appearance or behaviour. Machine learning and data-based predictions can be highly accurate and useful for the 80% who fall closer to the middle of the human starburst. But those same systems tend to exclude or inaccurately include statistically anomalous individuals from their calculations, or otherwise subsume them into broader categories, thus rendering disability invisible.

The challenge in designing and deploying machines with consideration of persons with disability, therefore requires:

- Co-design as a primary approach to machines (“nothing about us, without us”);
- Universal access design principles that are inclusive of the inter-relationship of impairment in addition to racial and ethnic, gender/sex and other diversity;
- A recognition that both one-size-fits-all and one-algorithm-fits-all approaches are likely to create challenges for many persons with disability, necessitating the need for

- machines to have human-in-the-loop capabilities; and
- Clear, coherent and robust processes for error detection, correction and compensation when machines breach the rights of persons with disability.

1. *Information about the use of AI, ML and ADM that allows persons with disabilities to **better engage positively in society.***

In Australia, the government's National Disability Insurance Agency (NDIA) has experimented with developing a chatbot technology (called Nadia) to enable persons with a disability a personalised approach to responding to queries about the National Disability Insurance Scheme (NDIS). It was co-designed with people with disability, but due to technological challenges and limited training data it did not proceed to full implementation (Appendix 3).

2. *Information about the use of AI, ML and ADM that **poses a risk to the rights** of persons with disabilities, subsequent **investigations/complaints/jurisprudence and corrective responses.***

Machines have also been sought to automate the process of personalising support and care services for persons with disability. Such automation typically necessitates the translation of professionalised assessments into structured procedures and categories. While there is often goodwill and hope that such processes may be able to better support persons with disability in such service systems, the examples are that they more typically pose serious risks to the risks of persons with disability (Appendix 1). Indeed, the use of machines in such a manner largely increases the opacity of the service system and diffuses accountability processes (Appendix 1; Henman 2021). Automated assessment in relation to disability and care services has also provided a figleaf for political decisions (Appendix 1), obscuring policy strategies which reduce the rights of persons with disability by casting the decisions as objective, administrative ones.

In the case of Robodebt (Appendix 3), despite Australia's social security agency (Centrelink) having flags for 'vulnerable clients' (often those with mental health challenges) it chose to send alleged debt notices requiring overpayment. After multiple inquiries highlighting how the Robodebt system breached basic administrative rights of social security generally (including those with disability), in response to a massive legal class action, the Australian government eventually admitted its operation was unlawful (Carney 2019). This case demonstrated the limitations of current legal settings in challenging systemic errors created by machines, because administrative review and appeal processes only focus on individual decisions. Consequently, new governance measures – such as legal codes and open source publication of government code – are needed to challenge systemic errors of Machines.

Australia, as a Signatory to the UN Convention on the Rights of Persons with Disabilities (CRPD), has multiple legal and institutional protections against discrimination for persons with disability. No doubt they do not always work. However, AI/ML/ADM can create significant new ways in workplaces that can breach the rights of persons with disability (see Appendix 4). The COVID-19 pandemic has given workplaces new mechanisms to monitor the health status of employees,

which can spill over the discrimination of health and disability status, and breaches of employee's private medical/health information.

Moreover, while direct discrimination on the basis of disability status can be ensured by removing disability status in design of AI/ML/ADM, the capacity of AI/ML/ADM to indirectly discriminate can arise due to their ability to surmise/infer disability/health status from other data (Appendix 4). Ethical AI codes and new technical data bias screening processes provide opportunities to address these challenges, but are often voluntary (Appendix 4).

The decision of Facebook to obscure its advertisements and its 'sponsored' notice was done to curtail the impact of ad blockers. Unfortunately, this has had the effect of undermining the rights of persons with visual impairment (Appendix 2). Researchers in the Centre are seeking to document the extent of this problem and are investigating technical solutions that Facebook and similar digital platforms may utilise that do not impose this discriminatory treatment on persons with visual impairment.

A key additional challenge evident in this research is that Facebook and similar platforms have greatly limited access for independent research to investigate the impacts such sites have on society in general and particularly persons with disability. An important international legal and policy response is to ensure social media and similar sites provide greater access to independent and public interest research to monitor, identify and rectify when platform AI/ML/ADM do risk the rights of persons with disability.

The challenges to human rights posed by AI/ML/ADM have been dealt with in numerous forums and reports, and as such do not need to be rehearsed here. With regard to the Australian context, the Australian Human Rights Commission has recommended the creation of government funded, but independent AI Commissioners to provide independent oversight and address complaints of Machines breaching rights and laws (AHRC 2021).

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Appendix 1

UN Report on AI and the Rights of Persons with Disabilities

The relationship between persons with disabilities and State bodies

prepared by Dr Georgia Van Toorn, University of New South Wales

The relationship between people with disability and State bodies is increasingly mediated by automated technologies that rely on advancements in artificial intelligence and machine learning. This encompasses a range of technologies, from computer-assisted and algorithmic decision-making, chatbots and digital assistants, and systems using voice, face, and gait recognition among other biometric methods of digital identification. In many liberal democratic states, these technologies are used widely throughout various areas of public administration. Governments and other advocates of automation see the potential for technology, and automated decision-making (ADM) in particular, to modernise public services, streamline the work of public administration, and achieve cost efficiencies.

In disability provisioning, ADM is becoming more common as governments seek to meet the increasing demand for disability benefits and personal support services within fixed budgetary parameters. The United Kingdom, for example, has long used computer-assisted decision making to determine eligibility for disability unemployment benefits. In the United States, ADM has proliferated rapidly in the last decade or so. Forty-one states now use algorithmic tools and processes to decide who is entitled to disability services and how many hours of support will be funded (Center for Democracy & Technology 2020). These technologies have been implemented across multiple service areas, spanning home care, mental health, and specialist behavioural and intellectual disability support programs.

In light of the rights of persons with disabilities as set out in the UNCRPD, ADM is significant in so far as it governs the distribution of social resources that underpin the standards of living, inclusion and autonomy of people with disability. As Caetano and Simpson-Young note, government should be the “model deployer of technology”, upholding ethical principles while ensuring no harm is inflicted through the use of ADM technologies (2019: 7). However, in many countries, such as the United States and the United Kingdom – both of whom are signatories to the UNCRPD – ADM technologies deployed in the public sector have had a number of unintended and undesirable consequences for people with disability.

First, when decision-making rules are encoded in algorithms, this obscures the criteria on which eligibility for disability benefits and

In the US state of Arkansas, an algorithm utilised a questionnaire-based scoring system to sort people into categories of need and assign them a standard number of monthly home care hours. Its methods of categorisation and weighting were such that a difference of one or two points on a particular question would see a person’s benefit cut by dozens of home care hours each month. Although these rules were relatively simple, they were not known to either the people being assessed or the government contractors administering the questionnaire. People with disability therefore had limited opportunity to meaningfully engage in the decision-making process.

services is assessed. Assessments can become mechanistic, impersonal, and disempowering, as without adequate knowledge and understanding of the assessment process, people with disability are unable to have meaningful input. The lack of transparency in ADM tools and processes poses significant risks to the right of people with disability to participate in decisions that affect their lives (see box 1).

Second, ADM technologies, while appearing politically neutral, can be used to deliver reductions in services that support people with disability to live independently and escape or avoid poverty (see box 2). These changes disproportionately impact the poorest and most disadvantaged people with disability.

Third, while ADM is now commonplace in the public sector, it is also widely used by private organisations and companies to whom governments have delegated the responsibilities of providing and administering social services. This form of outsourcing, where the governance of disability benefits and services is outsourced to for-profit providers, vests power in corporations to determine access to public resources through automated means. Outsourced ADM presents a challenge to the relationship between people with disability and the state to the extent that disability governance is subject to corporate rather than democratic control (see Box 3).

In 2019, the algorithm discussed above (see box 1) was replaced by another automated system, called the Arkansas Independent Assessment (ARIA). ARIA had a clear cost-cutting motive underlying its use. Under a directive from Arkansas's Republican Governor, Asa Hutchinson, Optum set out to achieve \$835 million in Medicaid savings through "program efficiencies" targeted at "individuals with chronic, high-cost behavioral health, developmental and long-term care needs" (Optum 2019: 1). During 2019, access to assisted living services was drastically restricted. Twenty-three per cent of applicants lost support to which they were previously entitled (Davis 2019). Thirty-one per cent were denied home care.

In the United Kingdom, for-profit health assessment providers (HAPs) are contracted to assess eligibility for the disability unemployment benefit. These assessments generate data that are used to inform the final decision determining eligibility. Theoretically, the decision ultimately rests with the Department of Work and Pensions. In practice, however, public administrators have increasingly come to rely on computer-generated recommendations made to the Department by private sector HAPs. A parliamentary review found that in 98 per cent of cases, Departmental decision makers followed the advice of the automated recommendations made to them by multinational IT firm Atos (Harrington 2010). To uphold the highest standards of disability governance, and protect the political rights of people with disability, governments must ensure there is a high degree of human and democratic oversight over automated systems of eligibility assessment.

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Appendix 2

Prepared by A. Obeid and A. Snoswell,

Response to question 3

“Please provide information about the extent to which technologies such as AI, ML and ADM pose a risk to the rights of persons with disabilities when deployed in relation to the areas highlighted in question 1.”

Within Australia, we have identified risks for visually impaired individuals with respect to the use of technologies that implement automated decision-making processes. Specifically, we here refer to the widely used social media platform, Facebook, where the issue takes place in the content of ‘posts’ served in the site’s well-known ‘News Feed’ feature. Facebook regularly serves advertisement posts within the News Feed and is consequently obliged to inform users of content served under this pretence. Visually enabled users enjoy the privilege of sighting a ‘Sponsored’ label under advertised content, and this positively contributes to their user experience by allowing them to quickly identify the intents behind the content that is served. On the other hand, individuals who are visually impaired are not afforded the same privilege. To elaborate, the ‘Accessible Rich Internet Applications’ (ARIA) (WAI-ARIA Overview 2006) standard requires for the accessibility of individuals who are visually impaired that websites include ARIA tags in the ‘document object model’ (DOM) of their respective web pages, so that they may be interpretable by the screen-readers that supplement the user experiences of visually impaired individuals. With respect to the forementioned dissemination of advertised content, it has been found that the source code of Facebook implements an automated technique that not only jumbles the text content which identifies advertisements, but also misuses the ARIA standard, by including ‘Sponsored’ labels on posts that are not advertisements (Social Media Collector 2020). By observation, the jumbling of the web page elements rearranges the composition of the advertisement labelling, while preserving the visual appearance. The process operates in a non-deterministic manner, as the obscurities bear a similar liking to those of basic encryption algorithms. As a result, visually impaired users who rely on screen-readers are not able to identify advertisements that are served on Facebook.

Response to question 4

“Please provide information on any formal complaints, official investigations, and related jurisprudence arising from allegations of discrimination against persons with disabilities in relation to matters highlighted in response to question 2 relating to your work using AI, ML, ADM and related technologies.”

First reports of Facebook’s obfuscations were reported in *Facebook’s hidden battle against ad-blockers* (2018). At the time, the practise was interpreted as a security measure by their website, a position that Facebook maintained in a statement released earlier this year (Clark, M. 2021). Their argument was that the obfuscation would prevent the web scraping of personal content by malicious parties that seek to breach the privacy policy of the site, however we have not been able to identify any records of deliberate obfuscation that extend beyond advertisements within the Facebook ‘News Feed’. However, there do exist ad-blocking technologies for which said obfuscations may negate. In particular, we relate an instance from the ad-blocking software ‘uAssets’ (2018), where the obfuscations have negatively impacted the web plugin’s capacity to identify advertisements. We also point out that the obfuscations hinder research

programs (including an initiative within the ADM+S centre) that seek to bring into question the accountability of Facebook's advertising practises (Scott, M., 2019, Ad Observer 2021, Australian Ad Observatory 2021). This is supported by numerous records of changes by Facebook's development team to the exact blocks of code that said research programs have been using to identify advertised content (Social Media Collector 2020), as well as the more recent suspension of Facebook accounts pertaining to researchers who have attempted to carry out such investigations (Angwin, J., Syed N. 2021). Recently, the American Federal Trade Commission rebuked part of Facebook's justification for their actions, claiming that it was "inaccurate" to have suspended the research accounts based on compliance with a privacy agreement the site has with the agency (Lima C. 2021). Within Australia, the Disability Discrimination Act (1992) states in Section 5(1) that "a person (the discriminator) discriminates against another person (the aggrieved person) on the ground of a disability of the aggrieved person if, because of the disability, the discriminator treats, or proposes to treat, the aggrieved person less favourably than the discriminator would treat a person without the disability in circumstances that are not materially different." Facebook discriminates against visually impaired users under Section 5(1) as visually enabled individuals can sight the 'Sponsored' labelling that identifies advertisements, whereas visually impaired users cannot.

Response to question 5

"Please identify the steps you have taken in relation to the rights of persons with disabilities in the context of your engagement with these technologies in relation to the areas highlighted in response to question 2."

At the ADM+S Centre, we are presently monitoring ongoing changes to the source code of the Facebook website's 'News Feed' feature, with emphasis to the labelling's that continue to obfuscate advertised content (Australian Ad Observatory Repository 2021). This has informed our own development of contemporary techniques to circumnavigate obfuscation as part of the ADM+S's 'Australian Ad Observatory' research project (Australian Ad Observatory 2021). To this end, our technologies remain open-sourced for the benefit of initiatives that also seek to overcome advertisement obfuscation. The ADM+S Centre is also presently compiling literature that seeks to argue the violations of the Australian Disability Discrimination Act (1992), to the objective of developing recommendations for both research projects and Facebook, that may offer a charitable resolution to both parties.

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Appendix 3

Prepared by Lyndal Sleep and Brooke Ann Coco

Key issues when considering AI, automated technologies and people with a disability include:

- The necessity of co-design
- Inherent data-bias
- The difference between equality and equity
- The risk of further exclusion from active roles in decision making
- Need to avoid application of experimental and untested technologies in disability services to minimise risk of serious harm.

Three examples of automations that effect people with a disability will show how these key issues have been playing out in Australia: NADIA NDIS chatbot, independent disability assessment in the NDIS, and Robodebt.

NADIA

The National Disability Insurance Scheme (NDIS) is funded by the Australian government to support the costs associated with having a disability. It was legislated in 2013 and its rollout was completed in 2020. The scheme is non-contributory, not means tested and entitles people with a "permanent and significant" disability (under the age of 65), to full funding for any "reasonable and necessary" support needs related to their disability (subject to certain restrictions). Funding is allocated directly to individuals or their guardians, who can choose which providers supply the funded goods and services. The NDIS was a significant departure from the previous service-based funding model which was inconsistent, inadequate and scattered across the states. A major change was that people with a disability had the power to contract services themselves. Digital transformation is considered key to this change (Goggin et al, 2019).

Significant support was needed for individuals to transition to the new system. The National Disability Insurance Agency (NDIA), the organisation responsible for the NDIS, worked with Marie Johnson of the Centre for Digital Business to develop a sophisticated empathetic chatbot to support NDIS service users. Utilising a co-design, co-creation method, Johnson consulted widely with people with a disability about what they wanted and needed in a chatbot (Centre for Digital Business, 2018). They overwhelmingly voiced a desire to be heard by a human that they can trust. As a result, the chatbot NADIA was created.

Using the voice of Australian actress Cate Blanchett, NADIA was designed to be as humanlike as possible. By employing a cognitive computing system to train machine learning algorithms, such as natural language processing (IBM Watson) (Connolly, 2017), NADIA hoped to avoid the stress of variability in real human interactions for people with a disability, while also promising 24/7 availability that was cost-effective (Dickinson & Yates et al 2021). However, in 2017 NADIA was abandoned after initial field testing, because the

errors were considered too high a risk to this vulnerable population (Park & Humphry 2019: 944).

This example demonstrates the importance of co-design and co-creation – but also indicates serious questions about why this experimental technology was developed for people with disability, where risk of significant harm is heightened. Despite costing \$3.5 Million, the NDIA decided to shelve NADIA until the technology had “matured” (Easton 2019). Despite an involved consultation and co-design process with people with a disability, including people with a cognitive disability, the AI chat bot still struggled to respond “empathetically” to the broad diversity of questions that reflect the range of experiences and needs of people with a disability. Inherent issues with the way data is input mean that AI systems are likely to have a built-in bias towards the “average” able bodied human, and tend to ignore extreme individual variation as outliers (Treviranus 2021). This is an issue because the sheer diversity of experience by people with a disability means they are most likely to be classified as outliers by AI systems, then ignored as too unique to include in their calculations. This results in the exclusion of people with a disability from AI calculations or massively inaccurate calculations, risking significant harm to people with a disability by disregarding their basic needs.

Independent assessments

Early changes to the way individuals were assessed for inclusion in the NDIS were trialed from 2018 to 2020. Instead of the standard practice of obtaining advice from NDIS health professionals, Independent Assessments were proposed as an improvement to the NDIS, enhancing consistency of decisions and providing free assessment of individuals’ needs. However, the change was heavily criticised by people who experience disability and their advocates, who campaigned against the change (Every Australian Counts, 2021; Joint Statement 2021). Changes included using independent assessors to generate a rating score for access to services, involving the generation of over 400 possible personas and linked presumptive budgets (Dickinson & Yates et al. 2021; Carney 2021). The scheme was nicknamed “Robo planning”, echoing “Robodebt”, because it decreased discretion and professional judgment by decision makers, lowered the amount of financial support available and was seen as a stepping-stone towards automated decision making in this sensitive sector. It was also viewed as a departure from the original values and aims of the NDIS, which was to empower people with a disability and their carers through “choice and control” over the care and support they needed in a way that accounted for individual needs and preferences (Barbaschow 2021). In July 2021, the Australian government decided to discontinue the implementation of Individual Assessments (NDIS 2021), and explicitly aimed to work more effectively with people with a disability in the future:

Ministers agreed to work in partnership with people who have a lived experience of disability through the Independent Advisory Council and disability representatives. Together we will work on the co-design of a new person-centred model, consistent with the legislative requirements for assessments as set out under the National Disability Insurance Scheme 2013 Act. (NDIS, 2021b)

Key issues with independent assessments relate to the necessity for co-design and co-creation with people with a lived experience of disability, particularly if a service aims to be sensitive to individual needs. However, the way that data and the mathematical calculations at the core of ADM technologies work, make this infinite variability difficult to accommodate. Discretionary decision making that takes into account the deeply individual needs of service users, is crucial in respecting the human right of people with a disability (Fisher, 2019). Unfortunately, these needs are often incongruent with AI and machine learning systems, which view discretions and variation in decision making as a problem (Treviranus 2021). Here, the difference between equity (same treatment) and equality (a level playing field) is paramount – treating everyone the same favours those that are “average” while excluding those who are statistical outliers. This effectively denies people with a disability their basic right to be included in important decisions about their care.

“Robodebt”

Australia’s social security payment system consists of a series of heavily means tested, flat rate payments, resourced from general taxation revenue. Generally eligible people with a disability received Disability Support Pension (DSP) until retirement age (currently 66 years and 6 months), after which they transition to Age Pension. Eligibility for Disability Support Pension is based on a very strict set of calculations based on severity of impairment, incorporating medical evidence and expert assessments (BRQ 2021; Services Australia 2021). It is not uncommon for people with a disability to be moved to other payments if they are not considered impaired enough according to the criteria (ACOSS, 2021). Hence, issues that impact social security recipients overwhelmingly impact people with a disability.

“Robodebt” is a colloquial term that refers to the use of an automated system to identify an alleged social security debt by the Online Compliance Intervention (OCI). The OCI was rolled out in 2016 as part of the Welfare Payment Infrastructure Transformation of the social security payment system in Australia. The OCI was the latest in a long history of compliance measures that aimed to ensure payment accuracy and detect overpayment or fraud. The automated data-matching scheme sought to compare fortnightly income in Centrelink payment records with averaged annual income data from the Australian Taxation Office. Over 400,000 current or former social security recipients received a notice on their smart phones that they may owe a debt based on the calculation, and instructions to contact the department to update their information. This placed the onus of proof onto the recipient and resulted in hundreds of thousands of people being incorrectly charged a social security debt, and/or being denied payment. This caused significant harm, including a reported increase in suicide rates among social security recipients (Carney 2019). Ombudsman reports (2017; 2019; 2021) as well as Senate Inquiries showed that there was insufficient testing of this technology before it was implemented (Commonwealth of Australia, 2017). A class action also showed that the way the government collected the debts was unlawful, and an estimated \$721 million in compensation was due to those affected. The automated data-matching element of the OCI stopped in 2019, but the general approach continues.

People who rely on social security payments in Australia are economically marginalised, and many have lived experience of having a disability, or are caring for a person with a disability. Historically, the social services sector in Australia has experimented with new digital technologies. However, Robodebt demonstrates the harm that can be inflicted on service users when new technology is not adequately tested before its implementation. People were excluded from payment, and follow-on impacts included becoming homeless, being denied medical help and medicine, and additional mental trauma (#NotMyDebt, 2021).

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Appendix 4

Prepared by Paul Harpur

1. role of persons with disabilities as workers/employees in relation to their employers and potential employers; and
2. ways in which persons with disabilities can access education and information and engage in all areas of daily and social life.

AI, ML, ADM pose risk to rights of persons with disabilities in work during COVID-19 pandemic

The below is drawn from Paul Harpur, Fitore Hyseni, & Peter Blanck, 'Workplace Health Surveillance and Covid-19: Algorithmic Health Discrimination and Cancer Survivors' (2021, forthcoming) in *Journal of Cancer Survivorship*. Please note our related work: *Disability Law and Policy* (2020); Paul Harpur & Peter Blanck. (2020). Gig Workers with Disabilities: Opportunities, Challenges, and Regulatory Response. *Journal of Occupational Rehabilitation*; Peter Blanck. (2014). *eQuality: The Struggle for Web Accessibility by Persons with Cognitive Disabilities*, Cambridge University Press. Available at: <https://bbi.syr.edu/bio/peter-blanck/>; Paul Harpur. (2017). *Discrimination, Copyright and Equality: Opening the e-Book for the Print-Disabled*, Cambridge University Press. Available at: <https://law.uq.edu.au/profile/1110/paul-harpur>.

The COVID-19 pandemic has spurred the use of AI/ML/ADM in the workplace for the purpose of monitoring and surveilling the health of workers. Unchecked, ADM use can create inequalities for people in the workplace who have acquired, or may acquire, COVID-19, as well as those otherwise affected by the pandemic. For people with disabilities or chronic health conditions the widespread collection of health information and use of ADM during the pandemic in workplace raises questions about the transparency, accountability, equity, and privacy of such processes.

The combination of COVID-19 health surveillance and algorithmic processes significantly reduces the capacity of people with disabilities to appropriately keep their private health data from their employers. Before COVID-19, discrimination based on algorithms had already resulted in adverse outcomes for people with health concerns. COVID-19 health surveillance is expanding the potential for such discrimination to apply even to people who do not view themselves as disabled. We use the term “**algorithmic health discrimination**” to describe this broadening vulnerability to inequalities in the workplace and elsewhere in society.

Limited effectiveness of privacy regulatory protections when it comes to AI and work

The below draws from Mark Burdon and Paul Harpur, 'Re-Conceptualising Privacy and Discrimination in an Age of Talent Analytics' (2014) 37 *University of New South Wales Law Journal*, 2, 679.

Employee recruitment and retention are contentious and complex decisions for employers. Historically hiring was based on social processes of human interaction – a prospective employee traditionally submitted a job application, and a manager would decide whether to call the person in for an interview. The traditional process is by no means perfect. The world is entering an age of predictive recruiting and retention which is challenging and changing the foundations of employee selection, with many potential positive benefits for both employers and employees.

Negative implications can arise through potential forms of discriminatory action that are very different to traditionally constructed forms of discrimination based on certain attributes, such as age, disability, race or sex. Discrimination in the Talent Analytics era can still be founded on these attributes, but discriminatory decisions can now also be founded on random attributes generated

through endless correlations of predictive patterns and segmentations founded on prescriptive actions. For example, the web browser an applicant used to upload their job application or where an employee has their lunch are now potentially relevant factors in recruitment and retention decisions.

Privacy laws restrict the capacity of employers to access information on their workers to help reduce disability and health discrimination. But privacy laws were not designed to consider that all information should be classed as personal information.

The use of non-protected attributes for segmentation and targeted action of specified groups can lead to discriminatory outcomes. One solution is to protect those attributes that are used for segmentation and prescription. This includes, for example, the browser used, the websites visited and the location of socialisations in the workplace.

But what are these informational attributes? They are not the social and physical characteristics of first-generation anti-discrimination law. Instead, these attributes are snapshots, insights; into the behavioural existence of individuals which can be used for inferring predictions of future behaviours. These information attributes are akin to personal information. Information about individuals or information that relates to individuals. An obvious solution arises, namely, personal information becomes a protected attribute of anti-discrimination law.

Limited effectiveness of anti-discrimination regulatory protections in AI/ML/ADM and work

The below is drawn from Paul Harpur, Fitore Hyseni, and Peter Blanck, 'Workplace Health Surveillance and Covid-19: Algorithmic Health Discrimination and Cancer Survivors' (2021, forthcoming) *Journal of Cancer Survivorship*.

Disability anti-discrimination laws may be used, with varying effectiveness, to combat algorithmic health discrimination at work and in governmental safety-net payments. With respect to the use of ADM during the pandemic, however, many of the protections that would otherwise shield workers from discrimination, such as Antidiscrimination and Equal Employment Opportunity ("EEO") laws and guidance, have been modified to allow screening and quarantining of workers exposed to COVID-19. Voluntary codes, especially with respect to principled AI frameworks, illustrate growing acceptance that inequalities resulting from the use of these ADM technologies will need to be addressed at the industry-wide level.

Voluntary Principled Ethical Frameworks dealing with AI and work

The below is drawn from Paul Harpur, Fitore Hyseni, and Peter Blanck, 'Workplace Health Surveillance and Covid-19: Algorithmic Health Discrimination and Cancer Survivors' (2021, forthcoming) *Journal of Cancer Survivorship*.

Voluntary agreements may foster innovative activities that transcend minimal compliance with the law and address algorithmic health discrimination resulting from the use of ADM at work. As evidenced by other web accessibility guidelines, voluntary standards can become widely accepted and serve as a guide in developing and enforcing hard law regulatory frameworks.

Principled ethical frameworks help regulate how algorithms are developed, deployed, and reviewed. These frameworks are relevant to promoting health equality in ADM.

Leading ethical guidelines and frameworks for AI illustrate commitment by industry groups, such as the Information Technology Industry Council (“ITI”), which has AI Policy Principles, and by leading companies, such as Google and Microsoft, which each have AI Principles, to exceed minimal compliance. A review of the principled AI frameworks suggests that disability is provided relatively less attention than other protected attributes, thus illustrating the need for more detailed analysis on the governance of AI and disability.

How laws could reduce disability inequalities when AI is deployed at work

The below is drawn from Paul Harpur & Peter Blanck, ‘Gig Workers with Disabilities Opportunities, Challenges, and Regulatory Response’ (2020) 30 *Journal of Occupational Rehabilitation*, 511–520.

Disability-inclusive employment policies can respond to the pandemic, rapid technological changes, and the “new normal” in the world of work. It is important to examine who “owns” workplace data, how the data is used and monitored, and how the outcomes are assessed.

This approach can help to foster more informed approaches for data scientists, workforce development professionals, human resource personnel, organizational managers, employers, governmental benefits specialists, and persons with disabilities. The outcomes should help to improve the capacity of systems to avoid algorithmic disability discrimination and to find means of enhancing equality at work.