

**Evidence Check**

Regulations and legislation  
to reduce discrimination for  
people with depression,  
anxiety or who experience  
suicidality

An **Evidence Check** rapid review brokered by the Sax Institute for Beyond Blue.  
December 2018.

**This report was prepared by:**

Nicholas Glozier and Elizabeth Stratton.

December 2018

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# Regulations and legislation to reduce discrimination for people with depression, anxiety or who experience suicidality

An **Evidence Check** rapid review brokered by the Sax Institute for Beyond Blue.

December 2018

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# List of included studies

Barnay T, Duguet E, Le Clainche C, Videau Y. An evaluation of the 1987 French Disabled Workers Act: Better paying than hiring. TEPP-Working Paper, January 2016:18, viewed 23 October 2018 <sup>1</sup>

[http://www.tepp.eu/doc/users/268/bib/reform-87pdf\\_3812.pdf](http://www.tepp.eu/doc/users/268/bib/reform-87pdf_3812.pdf)

Bell D, Heitmueller A. The Disability Discrimination Act in the UK: Helping or hindering employment among the disabled? *J Health Econ* 2009;28:465–480. <sup>2</sup>

Button P. Expanding employment discrimination protections for individuals with disabilities: Evidence from California. *ILR Review* 2017;71:365–393. <sup>3</sup>

Jones MK. The employment effect of the Disability Discrimination Act: Evidence from the Health Survey for England. *Labor* 2009;23:349–369. <sup>4</sup>

Jones MK, Jones J. The labour market impact of the UK Disability Discrimination Act: Evidence from the repeal of the small firm exemption. *Bull Econ Res* 2008;60:289–306. <sup>5</sup>

Mcleskey J, Landers E, Williamson P, Hoppey D. Are we moving toward educating students with disabilities in less restrictive settings? *J Spec Educ* 2010;46:31–140. <sup>6</sup>

Murray I, Hallahan B, McDonald C. Has the Mental Health Act 2001 altered the clinical profile of involuntary admissions? *Ir J Psychol Med* 2014;26:179–182. <sup>7</sup>

Thompkins AV. Did the ADA evolve into our ramp to full employment? An analysis of 18 years of the Americans With Disabilities Act, Mathematica Policy Research 2015. <sup>8</sup>

Nwachukwu I, Crumlish N, Heron EA, Gill M. Irish Mental Health Act 2001: Impact on involuntary admissions in a community mental health service in Dublin. *Psychiatrist* 2010;34(10):436–40. <sup>9</sup>

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# Abbreviations

<b>Abbreviation</b>	<b>Expansion</b>
ADA	Americans with Disabilities Act
CRPD	Convention on Rights of Disabled People
DDA	Disability Discrimination Act
NMHWS	National Mental Health and Wellbeing Survey
UN	United Nations
US	United States



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# Executive summary

## Introduction

People with a mental health condition often face significant stigmatising attitudes and discrimination, which can lead to disadvantages in many aspects of life such as work and education, and can limit opportunities in access to healthcare.<sup>10</sup>

Internationally, legislation and associated regulations have been introduced to address discrimination from different perspectives and in different settings. There is no legislation that specifically addresses discrimination against people with anxiety, depression or who experience suicidality, including attempt, ideation or planning (“who experience suicidality”). In Australia, there is only one type of legislation that targets discrimination against people with mental health conditions and only in one setting – that of healthcare. This legislation is the Mental Health Acts of each state which address involuntary admissions and other aspects of mental health care; these Acts treat people with mental health conditions differently than other people, potentially conflicting with their human rights.

In most countries the legislation that prohibits discrimination against people with depression, anxiety or who experience suicidality would be disability discrimination legislation. In Australia, this is the Disability Discrimination Act 1992 (DDA). The DDA is a federal act that makes it unlawful to discriminate, directly or indirectly, against a person with disability in many areas of public life, including employment and education. Many, but not all, people with depression and anxiety disorders would be included in this definition of ‘disability’, with exclusions generally based upon duration or impact. People who have had suicidal ideation or who have attempted suicide may be included in this definition if the condition or behaviour was a manifestation of a disorder, illness or disease.

## Review question

The aim of this review is to determine what regulatory or legislative levers have been effective in reducing discrimination for people with depression, anxiety or who experience suicidality in a workplace, education or healthcare setting. We do this through a systematic review of quantitative studies of the impact of legislation and regulations on the participation of people with depression, anxiety or who experience suicidality.

## Summary of methods

Relevant legislation and regulations were identified by searching Cochrane, Medline, PsycInfo, International Disability Law Index, the Organisation for Economic Co-operation and Development (OECD) Library and grey literature via Google advanced search.

The review was restricted to studies published in English between 2008 and 2018 from Australia, the United States of America, Canada, New Zealand, France, Germany, Ireland, Netherlands, United Kingdom, Denmark, Norway and Sweden. Studies were assigned to one of the three settings of interest: workplace, education and healthcare.

Studies were included if they evaluated the effect of a regulatory or legislative lever on discrimination-related outcomes for people with depression, anxiety or who experience suicidality, or groups that would include this target population. Studies were excluded if they did not specifically evaluate the effect of

legislation or regulations, did not report measurable outcomes of discrimination, reported outcomes unrelated to discrimination, were commentary or opinion pieces, or were otherwise out of scope. Levels of evidence were assessed using the National Health and Medical Research Council (NHMRC) classification (see Appendix 2). The quality of the included studies was assessed using the Assessing Cost Effectiveness (ACE) classification (see Table 2 main report).

**Results**

No studies were identified evaluating the effect of legislation or regulations in reducing discrimination of people with depression, anxiety or who experience suicidality specifically, in any setting.

The only regulatory or legislative levers addressing discrimination against people with the broader definition of a having a mental health condition, are those relating to Mental Health Acts. There is no information on the impact of this legislation in workplace or in education settings (primary or secondary). In healthcare, two studies, both from Ireland, found no impact of the Irish Mental Health Act on reducing involuntary admissions of people with mental health conditions.<sup>7,9</sup>

All the other studies evaluated the effect of legislation on discrimination against people with disability, a definition that that would include many of the target group for this review. Seven peer-reviewed studies were identified. Of these, six addressed the effectiveness of legislation and regulations on discrimination in workplace settings<sup>1-5,8</sup>, one in education settings<sup>6</sup>; none addressed discrimination in healthcare settings. No grey literature was identified that met the inclusion criteria.

Discrimination outcome measures identified in these studies were changes in rates of employment and hours worked (workplace); and the proportion of students placed in general education settings (education).

Overall the review found that:

There is **no evidence** available on the effectiveness of legislation or regulations for reducing discrimination of people with depression, anxiety, or who experience suicidality.

There is **inconclusive** evidence on the effectiveness of quota legislation for reducing discrimination of people with a disability in the workplace, and the limited results indicate no positive benefit.

There is **limited evidence** on the effectiveness of disability discrimination legislation in the workplace with indications of a short-term decrease in relative workforce participation after the introduction of legislation.

There is **inconclusive** evidence on the effectiveness of legislation for reducing discrimination for people with a disability in education. However, one study from the US suggested an increase in participation in general education settings.

**Table 1 Levels of evidence of included studies**

Setting	Legislation Type	Level of evidence
Workplace	Quota Systems	Inconclusive
	Disability Discrimination Act	Limited
Education	Disability Discrimination Act Least Restrictive Environment	Inconclusive
Healthcare	Mental Health Acts Involuntary Admissions	Inconclusive

## Key contextual findings

We identified no evaluations of Australian legislation or regulations to reduce discrimination for people with depression, anxiety or suicidal behaviours.

There was very little detailed information about how legislation was implemented or about the infrastructure or resources required. Some studies reported complementary policies, legislation, or regulations intended to facilitate outcomes.

Differing definitions of disability, over time and geographic location, limit the evaluation of discrimination related legislation and regulations.

Related legislation, such as Workplace/Occupational, Health and Safety legislation, and information about contextual factors, such as economic cycles and effect discrimination-related outcomes, was limited. For example, people with a disability appear to benefit less from rising employment in periods of growth.

In summary this is a complex area, underpinned by extensive and arguably onerous (in terms of cost and resources) legislative schemes that affects a substantial proportion of the Australian population, in the absence of a systematic evidence base.

## Policy and practice recommendations

The recommendations provided below are to be considered carefully as they were based on the limited evidence identified in the studies included in this review.

1. Establish and make accessible information for service providers on the rights of people with disability and on legislation and regulations, with a specific focus on people with depression, anxiety and suicide. The information should be provided in appropriate plain English and should be appropriate for different reading ages to ensure that it is clear for all. For example, the information could be provided via websites or pamphlets.
2. Undertake a quantitative evaluation of the impact of the Australian [Disability Standards for Education 2005](#), and consider the establishment of similar workplace and health care standards.
3. Systematically collate and make available examples of best practice on inclusive employment and health care for people with a disability, or specifically, for people with depression, anxiety or who experience suicidality, and where possible provide evidence of effectiveness from range of perspectives. The 'Exemplars of Practice' developed by the Federal Department of Education and Training provide a useful example.
4. Identify simple measures of the impact of anti-discrimination policy, practice and implementation in each workplace, education and health care settings, for benchmarking. An example of this is the NSW Mentally Healthy Workplace Benchmarking Tool.<sup>11</sup>
5. Consider the implications of mandating data collection that identifies people with mental health conditions in workplace, education and health care settings.
6. Record, support and strengthen policies improving inclusivity and a culture of disclosure of mental health conditions.
7. Develop standards in Australia for best practice in making 'reasonable adjustments' in education, employment and health care settings for people with disability, mental health conditions, or specifically, with depression, anxiety or who experience suicidality. Where possible provide evidence of their effectiveness from a range of perspectives including those of managers, employees, teachers, students, patients and clinicians.

## Positive discrimination policies

There seems to be little to recommend in terms of positive discrimination policies such as quotas, given their potential negative consequences, unless the balance of organisational benefits and impositions is more clearly identified and regulated, and the duty of care strengthened.

## Directions for future research

### General recommendations

There is a need for research focusing on the effect of legislation and regulations on people with depression, anxiety or who experience suicidality. We need to understand to what extent current conceptualisations of 'disability' in the literature correctly identify people with depression, anxiety or who experience suicidality.

Undertaking further work on legislation in Australia is unlikely to prove fruitful as the legislation was enacted many years ago, prior to the introduction of most population-based data collections and in a different economic, education and health care environment. The possible exception is the NMHWS surveys which span the introduction of ADA in Australia.

Systematic scanning for regulatory or legislation changes, either recently or in the future e.g. new Mental Health Acts, or case law affecting the definition of adjustments should commence.

There is a major gap in systematic organisational studies identifying what constitutes successful regulatory mechanisms in workplace, education and health care settings. It is noted that:

1. The presence of state-based legislation and regulations provides an opportunity for comparative studies of their effects on key outcomes of discrimination
2. Comparative studies of the implementation of regulations and its outcomes should be undertaken in all three settings. However simple, usable tools measuring implementation need to be developed
3. We have little understanding about what constitutes a successful outcome for people with depression, anxiety or who experience suicidality, from legislation and related regulations. There is an assumption that proxy measures of participation (e.g. numbers of people with disabilities in employment) capture these. This requires verification
4. **Workplace:** Future research should consider the short and long-term effectiveness and cost effectiveness of the introducing 'reasonable adjustments' in the workplace. Intervention studies assessing the effectiveness of incentives are required
5. **Education:** Future research on effective implementation of legislation in schools and universities should include key educational outcomes such as performance and completion, as well as student and family determined outcomes
6. **Healthcare:** Longitudinal studies on patient experiences and health care workers' perceptions and behaviours are needed, to properly assess whether and how people with depression, anxiety or suicidal behavior experience discrimination. Evaluating retrospective admission data may be useful in determining if the Mental Health Act legislation in Australia has been effective in reducing the rates of involuntary admissions.

# Background

## Introduction

This Evidence Check review aimed to identify the effect of legislation and the regulations resulting from this legislation, on discrimination of people with depression or anxiety or who have suicidal ideation or related behaviours or who have attempted suicide. There is an important distinction between stigmatisation (an umbrella term covering negative attitudes and behaviours) and discrimination (exclusion from normal forms of social participation for example, in employment, education, relationships, and healthcare.) This review is restricted to discrimination.

This introduction is structured by outlining:

1. How discrimination can be measured and evaluated
2. The types of legislation that address discrimination against people with depression, anxiety or who experience suicidality, including those covered under broad definitions such as 'disability'. Three types of legislation will be discussed: legislation that: a) specifically targets discrimination against people with depression, anxiety or who experience suicidality; b) targets discrimination against people with a mental health condition as a broad category that may include people with depression, anxiety or who experience suicidality; and c) targets discrimination against people with disability which include those with depression anxiety or who experience suicidality, in Australia the Disability Discrimination Act (1992)
3. The regulatory levers such as reasonable adjustments and standards in a disability context.

## Evaluating discrimination and its effects

Discrimination can be assessed through self-report measures, although in the context of psychiatric disorders in particular, this conflates the discrimination people experience with anticipated discrimination and self-stigma. For instance, in a large global survey only half of those experiencing discrimination in the workplace had actually reported it.<sup>12</sup> As a result, this Evidence Check review focuses on identifying potential objective outcomes resulting from discrimination in three areas: indicators of employment (e.g. labour force participation, hours worked); education (e.g. school/tertiary education completion, exclusion, mainstreaming); and healthcare (equitable access to care, involuntary treatment).

Four key challenges hamper evaluation of discrimination outcomes on people with depression, anxiety and suicidal behaviours:

1. Depression, anxiety and suicidal behaviours are more common in people with other forms of social disadvantage. For example, disadvantage in education, income, family stability, indigenous status, cultural and language differences are associated with increases in these behaviours.<sup>13</sup>
2. Many individuals with depression, anxiety and suicidal related behaviours may be the target of discrimination based on these other characteristics; these may be covered by different legislation, for example, human rights. Disentangling discrimination on the basis of just one characteristic such as race, gender or mental health condition is complex and it is difficult to determine based on which characteristic discrimination occurred.

3. Macro effects, such as economic cycles and changes in other policy areas, introduce 'noise' into longitudinal analysis. This means it is difficult to attribute specific effects to discrimination legislation as distinct from, say, economic fluctuations.
4. Changing social norms – for example as a result of literacy and anti-stigma campaigns - or definitions of self-harm, influences identification of people with depression, anxiety or who experience suicidality over time.

## Legislation to address discrimination

There are three areas of legislation and associated regulations, potentially addressing discrimination against people with depression, anxiety or who experience suicidality, which have been included in this review. We include evidence for these areas, where available, in three settings: workplace, education and health care and structure the results to reflect this.

### 1. Legislation specifically targeting discrimination against people with depression, anxiety or suicidal ideation

Legislation decriminalising suicide was introduced between 1899 and 1958 in all states and territories in Australia. There is no other relevant legislation that addresses discrimination for people with depression, anxiety or who experience suicidality. Assisted suicide legislation is not in scope for this review.

### 2. Legislation targeting discrimination against people with mental health conditions that would include depression, anxiety and many with suicidal ideation

The human rights of people accessing care specifically related to their mental health conditions are governed by Mental Health Legislation. The 2014 WHO Mental Health Atlas reports that "68% of WHO Member States have a stand-alone policy or plan for mental health; 51% have a standalone mental health law".<sup>14</sup> In many countries, however, policies and laws are not fully aligned with human rights instruments, implementation is weak, and people with a mental health condition and family members are only partially involved.

The Australian legislation specifically targeting discrimination or social participation of people with a mental health condition are the Mental Health Acts of each state, which address involuntary care and other aspects of mental health conditions and none is fully compliant with international law<sup>15</sup>, specifically the United Nations Convention on the Rights of Persons with Disabilities (the CRPD) in force in Australia since 2008. While the UN principles provide for substituted decision-making, involuntary commitment and treatment of people with a mental health condition ('mental illness') in their best interests, the CRPD has contradictory clauses which may reject illegal discrimination. One very recent comprehensive review of this legislation across Australian jurisdictions concluded that Australian and New Zealand Mental Health Acts show striking differences from one another. Two examples follow.

Article 14 (1) (b) says that: *"States parties shall ensure that persons with disabilities, on an equal basis with others: a) enjoy the right to liberty and security of person; b) are not deprived of their liberty unlawfully or arbitrarily, and that any deprivation of liberty is in conformity with the law, and that the existence of a disability shall in no way justify a deprivation of liberty."*

Article 12 (2) affirms the right of people with disability to *"enjoy legal capacity on an equal basis with others in all walks of life."*

As the RANZCP document states<sup>15</sup>: *"As a whole, it can be read as demanding an end to all forms of substituted decision making and tests of decision-making capacity in legal contexts. Alternatively, it can be read to allow both measures, if safeguards are in place"*.



The CRPD has yet to influence legislation but is very likely to do so.

### 3. Legislation targeting discrimination against people with a disability which would include a proportion of people with depression, anxiety and many with suicidal ideation

#### *Disability Discrimination Acts*

In Australia, the prohibition of discrimination against people with depression, anxiety or suicidal related behaviours can be inferred under the Disability Discrimination Act 1992 (DDA), under the concept of 'disability'. The DDA is a federal act that makes it unlawful to discriminate, directly or indirectly, against a person in many areas of public life (including employment, education, getting or using services, renting or buying a house or unit, and accessing public places), because of their disability.

Under the DDA, 'disability' is defined as:

- Total or partial loss of the person's bodily or mental functions
- Total or partial loss of a part of the body
- The presence in the body of organisms causing disease or illness
- The malfunction, malformation or disfigurement of a part of the person's body
- A disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction
- A disorder, illness or disease that affects a person's thought processes, perception of reality, emotions or judgment, or that results in disturbed behaviour

and includes disability that:

- Presently exists
- Previously existed but no longer exists
- May exist in the future.

A major limitation in comparing disability discrimination legislation is the variation in the definition of disability between jurisdictions and over time. For instance, the US ADA has a different definition of disability to Australia. The ADA defines a person with a disability as a person who has a physical or mental impairment that substantially limits one or more major life activity. This includes people who have a record of impairment, even if they do not currently have a disability. This was however restricted by subsequent Supreme Court rulings to only include activities that are of central importance to people's daily lives. In addition, the ADA does not provide specific duration criterion.

Conversely in Austria, the definition better fits the social model of disability as a person with a disability or impairment who is not able to, "...sustain regular social relationships, acquire and perform gainful employment and achieve a reasonable and adequate income without assistance." <sup>16</sup> However, in the context of this review, this definition is somewhat tautological in that if the person is able to achieve this level of participation they do not have a disability.

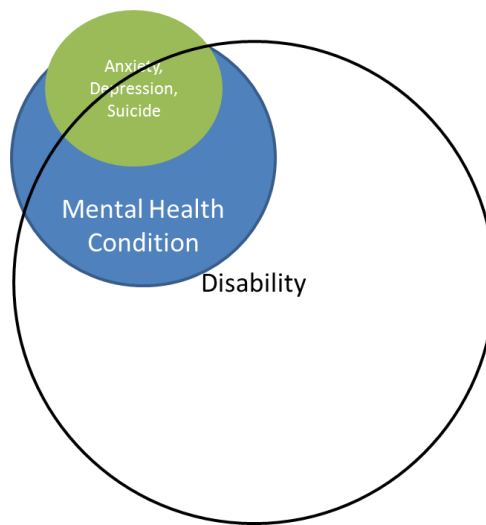
#### *The overlap of 'depression, anxiety and and suicidality', 'mental health condition' and 'disability'*

Many, but not all, people with depression and anxiety disorders would be included in this definition of 'disability' (with exclusions generally based upon duration or impact). People who have had suicidal ideation or who have attempted suicide may be included if this condition or behaviour was a manifestation of a disorder, illness or disease.

This is outlined in Figure 1. However, comorbidity is common, with depression, anxiety and suicidal behaviours being more prevalent in people with other forms of disability. Distinguishing the effects of

discrimination legislation on types of disability and individual conditions requires ascertainment of these individually.

Figure 1 The overlap of depression, anxiety and suicide behaviour, mental health conditions and disability.



Assessing the impact of discrimination legislation and regulation overall is complex. The definition of 'disability' is usually ascertained in routine datasets from self-report using different wording, and which may not fit the legal criteria.

- a) Most routine datasets assess mental health conditions with symptom scales and/or cut points based upon combining all types of mental health conditions together. There can also be 'false positives' from people who have symptoms similar to mental health conditions e.g. sleep disturbance arising from chronic pain, or substance abuse.

Not all discrimination is unlawful.

- b) Positive Discrimination. Some types of discrimination – known as 'positive discrimination' or 'affirmative action' are socially justified and have been legalised. Some countries, such as Germany, France, Japan, China, Czech Republic, Hungary, Poland, Romania, the Russian Federation and the Slovak Republic, have adopted quota legislation in response to high unemployment rates of people with a disability. Quota systems were first adopted by the UK and Italy in the 1940's. However, the UK abolished this system in the 1990's on the grounds of its ineffectiveness due to employees' non-disclosure of disabilities and employers not meeting their quota obligations.<sup>17</sup> Quota legislation requires companies to employ a minimum percentage of people with disabilities or face a fine usually in the form of a tax penalty.<sup>18</sup> China and Japan currently have a quota-levy system, but in many other countries (including Morocco, Tunisia, Azerbaijan, Pakistan, Thailand and Vietnam) they are often unenforced. In Germany, 5% quotas for both public and private sectors were introduced in law in 1974 and represent the main regulatory instrument promoting the integration of workers with a disability in the labour market. In France, employers with at least 20 employees are required to meet the 6% quota in both the public and private sectors.

### **Discrimination embedded in other legislation**

There are also many examples of legislation, policy and regulations that (i) explicitly discriminate against people with mental health conditions (and other illnesses) or (ii) assess some degree of impairment, severity, impact, disability that influences employment or access to healthcare that is deemed to reflect appropriate discrimination of some people with mental health conditions. These include:

- National Disability Insurance Scheme: the assessment of eligibility determines access to many health and education services
- State Transport Licencing Legislation, that determines medical standards for licensing and which may limit commercial driving
- Occupational health and safety legislation, such as the Rail Safety National Law imposing *National Standard for Health Assessment of Rail Safety Workers*, that can exclude people from certain roles
- State Education Regulations: that regulate access to school.

## Types of regulatory mechanism

Beyond the legal prohibition of discrimination two major regulatory mechanisms exist; reasonable adjustments, and standards.

### Reasonable adjustments

For people with disabilities, legislative acts in many countries include the regulatory concept of 'reasonable adjustments'. Reasonable adjustments are generally defined as accommodations or modifications that are made in the workplace to enable people with a disability to perform their roles productively and efficiently, as though they did not have a disability. In most countries it is a legal requirement for employers to provide reasonable adjustments to people with disability. Adjustments may be classified into three categories: 1) modifying application procedures to ensure fair consideration; 2) modifying physical features of workplace settings and modifying essential job tasks; and 3) modifying workplace rules and culture ensuring that employees with disabilities enjoy equal benefits and privileges as similarly situated employees without disabilities.<sup>19</sup> Education systems have had developments regarding the provisions for students with disability. For example, in the UK in 2006 changes to the Disability Discrimination Act 1995 meant that higher education facilities were obliged to make anticipatory reasonable adjustments in an attempt to prevent discrimination from occurring rather than waiting until the discrimination occurred.<sup>20</sup>

### Standards

In Australia the DDA is supplemented by a series of disability standards and guidelines which provide more detail on rights and responsibilities about equal access and opportunity for people with a disability. Standards are legally binding regulations set by the Attorney-General under the DDA. The Disability Standards for Education 2005 is a standard that promotes inclusive education, whereby students with a disability should be treated on the same basis as any prospective or current student when seeking admission or when participating.

Several countries such as the UK, Ireland and the US have also adopted legislation for special education for students with disabilities. Special needs legislation sets out to strengthen the rights of children and young people with disabilities to be educated in mainstream schools. Children under such Special Education Needs Act are educated in mainstream schools and have access to a broad, balanced curriculum based education system.<sup>21</sup> In some cases, a combined approach is used with children with disabilities spending some time in general education as well as having access to specialized teaching and curricula.

## Aim of the review

The aim of this review is to determine what regulatory or legislative levers have been effective in reducing discrimination for people with depression, anxiety or who experience suicidality in a workplace, education or healthcare setting. We did this through a systematic review of quantitative evaluations of the impact of the legislation and regulations identified above on participation of people with depression, anxiety or who experience suicidality (or part of broader groups of people with mental health conditions or disability) in workplace, healthcare and education settings.

# Methods

## Systematic review of peer reviewed literature

### Search method

The peer reviewed literature search was conducted using MeSH terminology (MeSH) and associated terms. The Boolean search technique (AND, OR, NOT) was used to further identify specific papers of interest. An additional keyword (kw) search was conducted.

Peer reviewed studies were identified by searching the online libraries of: Cochrane; Medline; PsycInfo; International Disability Law Index; and the OECD Library. The PICO framework<sup>22</sup> was used to ensure the search was well focused and identified appropriate resources and relevant evidence.

The search strategy is provided in detail in Appendix 1.

### Inclusion criteria and setting

Searches were conducted for the following twelve countries: Australia, the US, Canada, New Zealand, France, Germany, Ireland, Netherlands, United Kingdom, Denmark, Norway and Sweden, using terms relating to equal opportunity laws specific to each country. The review was restricted to studies published between 2008 and 2018 in English.

This review only considered studies that reviewed the effectiveness of the legislative and regulatory levers. The preliminary search strategy was based on Legislative Acts. Reviews of legislations based around insurance for people with a mental health condition were excluded from the review, including the Affordable Care Act, Medicare, Medicaid or any insurance benefits schemes. Opinion pieces and commentary were also excluded.

Studies were included if they reported outcomes related to disability discrimination and assessed the effectiveness of legislation or regulation on populations of interest. Studies were excluded if they were qualitative, did not address legislation or regulations, and did not report measurable outcomes or outcomes unrelated to disability discrimination were commentary or opinion pieces or were otherwise out of scope.

The following key words were used for the search:

**Workplace** (depress\* OR anxiety\* OR suicide\*) AND (discrimination OR anti-discrimination OR anti discrimination) AND (law OR intervention OR program OR legislation OR policy OR regulation) AND (employee OR organis\* OR work OR workplace OR institute\*). This search resulted in 682 independent government and non-government websites being accessed. This review did not identify any relevant evidence.

**Education** (depress\* OR anxiety\* OR suicide\*) AND (discrimination OR anti-discrimination OR anti discrimination) AND (law OR program OR legislation OR policy OR regulation OR review) AND (alternate education OR reasonable adjustments OR accessible education OR special education need OR Inclusive education OR inclusive school). This search resulted in 834 independent government and non-government websites being accessed. This review did not identify any relevant evidence.

**Healthcare** (depress\* OR anxiety\* OR suicide\*) AND (discrimination OR anti-discrimination OR anti discrimination) AND (law OR intervention OR program OR legislation OR policy OR regulation) AND (healthcare OR health care OR primary care). This search resulted in 112 independent government and non-government websites being accessed. This review did not identify any relevant evidence.

### Grey Literature review

The primary grey literature search was conducted using the Google advanced search engine [https://www.google.com/advanced\\_search](https://www.google.com/advanced_search). Grey literature included materials and research produced by organisations outside of the traditional academic publishing and distribution channels. Common grey literature publication types include reports, working papers, government documents, white papers and evaluations. Structured searches were conducted to identify relevant grey literature for the following twelve countries; Australia, the United States, Canada, New Zealand, France, Germany, Ireland, Netherlands, United Kingdom, Denmark, Norway and Sweden. The search was restricted by each geographic region of interest and limited to English language PDF/Word documents. The review focused on results since 2008 and each search was limited to the first 50 search results. Only unique references were counted in each search. Source websites of relevant documents identified in the primary search were searched for further documents of interest.

### Level of evidence

The level of evidence was assessed using the NHMRC classification of levels of evidence (Appendix 2) and the quality by the ACE study evidence classification (Table 2).

Table 2 Classification of the strength of evidence<sup>†</sup>

<b>ACE evidence classification</b>	<b>NHMRC level of evidence classification</b>
Sufficient evidence	Well-designed research One level I study Several level II studies Several level III-1 or III-2
Limited evidence	Studies of varying quality One level II study One level III-1 or III-2 of high quality Several level III-1 or III-2 studies Many level III-3 studies
Inconclusive	Studies of insufficient quality No evidence from level I studies No evidence from level II studies Some level III studies available but poor quality
Likely to be effective	Low-quality studies and parallel evidence Level IV studies
May be effective	Lower-quality studies and parallel evidence Level IV studies
No evidence	No position could be reached

<sup>†</sup>Taken from Jorm and Reavley 2013, available at [https://www.saxinstitute.org.au/wp-content/uploads/ECheck\\_REPORT\\_Reducing-stigma-2013.pdf](https://www.saxinstitute.org.au/wp-content/uploads/ECheck_REPORT_Reducing-stigma-2013.pdf)

<sup>\*</sup>See Appendix 3 for more details

# Results

## Reviewed literature

The **workplace** setting peer-reviewed search returned 586 results, which were examined by title and abstract for inclusion. Of these, 31 peer-reviewed studies and two grey literature papers were identified for full-text examination. A manual check of the references identified a further four studies. Seven papers were excluded as they did not report legislation or regulations, four were qualitative studies, two studies were pre-2008, and six studies were opinion pieces or reviews without measurable outcomes. Twelve reported outcomes that did not evaluate discrimination or were from countries that were not of interest. After the full-text review, the remaining six studies of legislation were included.

The **education** setting peer-reviewed search returned 528, results which were examined by title and abstract for inclusion. Of these, 46 peer-reviewed studies were identified and 39 grey literature for full-text examination.

A manual check of the references identified a further five studies for consideration. Eleven papers were excluded as they didn't consider legislation or regulations, four assessed qualitative analyses, four studies were pre-2008, 36 studies were opinion pieces or reviews without measurable outcomes, 28 reported outcomes that did not evaluate discrimination, four were in countries out of scope and two were conducted in different populations (autism). After the full-text review, one review of legislation was included.

The **healthcare** setting peer-reviewed search returned 347 results, all of which were examined by title and abstract for inclusion. Of these 16 peer-reviewed studies were identified and 19 grey literature for full-text examination.

A manual check of the references identified no new studies for consideration. Two studies were excluded as they reported only qualitative analyses, 22 studies were opinion pieces or reviews without measurable outcomes, and seven reported the outcomes or countries that were not of interest. Two reported on health insurance. After the full-text review, two reviews of legislation were included.

A PRISMA diagram of the study selection process and reasons for exclusion is shown in Appendix 5.

Study findings are reported by type of setting and within each setting by type of legislation. See Appendix 4 for the full table of results describing each included study.

## Workplace legislation

### 1. Quota legislation

#### Study 1: "An evaluation study of the 1987 French Disabled Workers Act: Better paying than hiring" <sup>1</sup>

##### Legislation

The French Disabled Workers Act 1987 imposed a 6% employment quota including on part-time and full-time employees in the public and private sectors. The legislation imposes financial penalties for companies not meeting the quota for workers with disabilities.

**Study design:** A longitudinal interrupted time-series study

**Level of evidence:** Level III-1

## **Population**

The SIP (Health and Labour Market Histories) Survey retrospectively questions 14,000 persons aged between 20 and 74 and living in ordinary households in France on their life paths (family, professional and health status) and provides a detailed description of these different dimensions at the time of the survey. A retrospective calendar allows identification of the exact date of disability onset, the length of disability and the evolution of labour market status (including public and private sector employment).

Definition of Disability: Participants who had completed their initial education and who reported at least one recognised disability (n=1777), restricted to people with their first disability (n=342) were compared to those without disability matching for gender, education level, and the age when the disability occurred.

The study evaluates people with a disability and does not report on the impact of the quota system specifically on discrimination related employment outcomes for people with **depression, anxiety or suicide** ideation or who experience suicidality specifically.

## **Outcome measure(s)**

Employment rates of people with a disability before and after the implementation of the Disabled Workers Act.

## **Study findings**

Overall, the employment rates of people with disability were reduced by 10-28% depending on the method of analysis, after implementation of the Disabled Workers Act.

However, the findings differed across private and public sectors. Disability had a detrimental effect on employment in the private sector, which increased over time. However, employment rates remained neutral in the public sector in the first two years after the quota system was introduced, but declined within five years.

## **Barriers and facilitators identified**

By enabling firms to meet the requirements of the legislation by paying a financial penalty and without hiring people with disability, the reform had a counterproductive impact overall. The reaction of private sector organisations was either to continue a weak disposition to employ people with a disability or prefer to pay the financial penalty.

## **Other contextual information**

Despite these findings, this Act remains in France. Similar Acts currently exist in several European (EU) countries, such as, Belgium, Austria, Germany, Italy, Spain and Poland each using a different mix of quotas, employment subsidies and financial penalties, and definitions of disability. Quota systems were enacted after World War I to encourage and, in some cases, oblige workplaces to employ a certain percentage of ex-servicemen with a disability. The higher employment rates of ex-veterans after the enactments of quotas in this period led other European countries to enact similar quota legislations after the Second World War and were expanded to include all people with disability, not only ex-veterans.



### Box 1: Summary of studies on workplace disability quota legislation

**Overall strength of the evidence:** Inconclusive

**Number of studies:** One

**Outcome measure(s):** Changes in rates of employment before and after introduction of the French Disabled Workers Act 1987, for people with at least one recognised disability

**Conclusion:** There is insufficient evidence to indicate whether quota legislation to reduce discrimination for people with a disability is effective and the one study identified indicated a detrimental effect of the legislation on employment outcomes. Data for people with depression, anxiety or suicidal behaviour were not separately reported.

**Barriers and facilitators:** Organisations could avoid hiring their quota of people with a disability by paying a financial penalty. Higher penalties may ameliorate this.

## 2. Disability Discrimination Legislation

### Study 1: The Disability Discrimination Act in the UK: helping or hindering employment among the disabled? <sup>2</sup>

#### Legislation

The Disability Discrimination Act 1995 (DDA) in the United Kingdom (UK) was intended to end discrimination against people with disability. Part II of the Act, which came into force in December 1996, states that it is unlawful for employers to discriminate against employees with disability. In addition, employers have to make 'reasonable adjustments' if their employment arrangements or premises place people with disability at a substantial disadvantage compared with people without a disability.

**Study design:** Longitudinal interrupted time series study

**Level of evidence:** Level III-3

#### Population

Compares data from two large population surveys:

1. The British Household Panel Study survey was conducted between 1991–2002 included 46,395 individuals. Men who are aged 16–64 and women aged 16–59, who are not working for the armed forces or in self-employment and are residing in England.
2. The Family Resources Survey for 1994/95 to 2002/03.  
Definition of Disability: Disability was ascertained using four questions assessing work limiting disability, health limitations in day-to-day activities, longstanding illness and a limiting longstanding illness question. It does not report on employment rates for people with depression, anxiety or who experience suicidality specifically.

#### Outcome measure(s)

Employment rates of people with a disability before and after implementation of the DDA.

### **Study findings**

Employment rates of people with disability fell by 5-8% in the immediate post legislation period. This trend appeared to have reversed by 2002, the last year of the data collection.

### **Barriers and facilitators identified**

The authors identify factors that may influence the probability of employment among people with disability in England. Employers' hiring decisions may be influenced by the supply price of people with disability in the labour market, which may be affected by disability legislation and also by anticipated hiring and termination costs. These depend, for example, on the willingness of people with disabilities to sue if they are not hired and on the additional costs of providing adjustments and assistance to people with disability. However, actual costs of reasonable adjustments seem to be low.

The DDA was supported by several regulatory mechanisms in the UK. In 1994 a scheme called "Access to Work" was introduced and was intended to provide practical support to meet unreasonable additional costs associated with overcoming work-related obstacles resulting from disability, although the person had to be employed already. Individual tax incentives and government department performance targets also aimed to increase the workforce participation of people with disability over the period of this evaluation. This makes the lack of improvement more remarkable.

There are low levels of awareness of the legislation among employers. The low uptake of the "Access to Work" program, through which employers can recover some of the costs of unreasonable adjustments for a maximum of three years, suggests awareness is low. The costs of employment termination may also be a disincentive in employing people with a disability.

### **Other contextual information**

The definition of disability is affected by employment status. Around 7.5% of individuals who self-identify as a person with disability in one year are employed in the following year. Of these almost 52% also change disability status. There was a slight but significant decrease in the proportion of switchers who subsequently describe themselves as a person without a disability once they have entered employment after the DDA was introduced, consistent with the lower stigmatisation.

## **Study 2: The Employment Effect of the Disability Discrimination Act: Evidence from the Health Survey for England. <sup>4</sup>**

### **Legislation**

The Disability Discrimination Act 1995 (DDA) in the United Kingdom.

**Study design:** A longitudinal interrupted time series study

**Level of evidence:** Level III-3

### **Population**

The study uses data from Health Survey England, a nationally representative annual cross-sectional survey of individuals, commissioned by the Department of Health. Data are available between 1991 and 2004. The population was adult employees (n=99,649). The sample is restricted to individuals of working age and excludes the self-employed.

Definition of disability: Long-standing illness "do you have any long-standing illness, disability or infirmity? Longstanding means anything that has troubled you over a period of time?" This broad definition captured 35% of respondents over 14 years.

**Outcome measure(s)**

Employment rates of people with a disability before and after the introduction of the DDA.

**Study findings**

In the short term (1996-2001) the employment gap for people with a disability widened. The marginal effect indicated the DDA reduced employment of people with disability by about 3%. After 2002 there appears to be no evidence of either a positive or negative effect of the DDA on employment rates of people with a disability.

Composition of people with disability: Disability increased significantly between 1991 and 2004, suggesting that reporting of disability was higher after the introduction of the DDA alongside an increase in people who report they have a disability and are permanently unable to work.

There is preliminary evidence of reduced employment probabilities for people with higher levels of mental ill health in the post DDA period.

**Barriers and facilitators identified**

Although the legislation reduces barriers to employment for people with disability, it may have important unanticipated negative impacts in additional costs for employers associated with modifying workplaces and practices, and increased risks of legal action. Changes in the way disability is defined and reported may also have an impact on how the effect is understood.

**Other contextual information**

Potential confounders could include changes in the composition of people reporting disabilities, the role of 'disability income' and the relative effects of business cycles on workers with and without disabilities.

There were also changes to the UK benefit system in this period.

**Study 3: The Labour Market impact of the UK Disability Discrimination Act: Evidence from the REPEAL of the small firm exemption <sup>5</sup>****Legislation**

The paper examines the 2004 REPEAL amendment to the Disability Discrimination Act 1995 (DDA) in the UK which removed the DDA exemption for employers with less than 20 employees.

**Study design:** A longitudinal interrupted time-series study

**Level of evidence:** Level III-3

**Population**

The population was adult employees (n=533,759). The Labour Force Survey is a quarterly survey of about 60,000 private households in the UK. Data on working age individuals in wave 1 are pooled over 37 quarters from Spring 1997 to Spring 2006.

Disability definition: coincides exactly with the DDA definition: *"a long-term health problem or disability that substantially limits a person's ability to carry out normal day-to-day activities."*

The study considers people with a disability as it does not report on employment rates for people with depression, anxiety or who experience suicidality specifically.

**Outcome measure(s)**

Employment rates of workers with a disability before and after implementation the 2004 REPEAL amendment, and the changes in the relative earnings of employees with a disability in small firms.

### **Study findings**

There was a 3% reduction in the overall employment gap between people with and without disabilities i.e. an increase in the employment rate, after 2004. However, this was not attributable to increased employment in small firms and is therefore not supportive of a direct impact of the REPEAL Act's effects on removing the DDA exemption for these small businesses.

The changes in legislation had no impact on the earnings of people with disability in small firms.

### **Barriers and facilitators identified**

It has been argued elsewhere that the absence of a significant employment effect may be attributable to low awareness of the Act.

Employment rates rose across all firm sizes, which may reflect a more general change in the attitude of employers. The DDA may have had a wider influence, for example by raising awareness about labour market difficulties for people with disabilities.

The increased probability of employment of people with disability in large, but not small, firms following REPEAL is not consistent with this amendment having a specific effect.

### **Other contextual information**

If the DDA has had any effect, the evidence suggested it has been through the creation of a more favourable climate for workers with disability and through greater awareness of employers. The increase in employment rates for people with a disability post-dated the findings of the Jones (2009) paper and may represent a lag effect of the DDA or that the increase in employment of people with disability reflected other factors.

## **Study 4: Expanding Employment Discrimination Protections for Individuals with Disabilities: Evidence from California <sup>3</sup>**

### **Legislation**

The Prudence Kay Poppink Act (PKP) 2001. This act made five changes to California's Fair Employment and Housing Act (FEHA) to broaden its coverage to individuals with less severe disabilities and lower the burden of proof to establish disability. Included in these changes were: the requirement that a condition 'substantially limits' a major life activity to just 'limits', the addition of 'working' to the list of major life activities, an expanded list of conditions classified under 'disability' to include several severe mental health conditions such as bipolar disorder, clinical depression. Additionally, the legislation made it "*a punishable offense for an employer to fail to adequately participate in the interactive process with an employee or job applicant to determine effective reasonable adjustments*". The PKP removed the "*major life activity limitation criterion*" for several conditions including bipolar and major depressive disorders.

**Study design:** A longitudinal interrupted time series study

**Level of evidence:** Level III-3

### **Population**

This study analysed results from the Current Population Survey's Annual Social and Economic Supplement between 1994 & 2007. The analysis compared adults between the ages of 25 to 61 with disabilities in California (n=6,166) before and after the PKP Act with individuals with disabilities in other US states, and further compared Californians living with disabilities to Californians living without disabilities.

Definition of disability: a physical or mental impairment that substantially limits one or more major life activities of such individual; a record of such an impairment; or being regarded as having such an impairment.

### **Outcome measure(s)**

The employment rates of people with a disability before and after the introduction of the Prudence Kay Poppink Act in the Americans with Disabilities Act 1990.

### **Study findings**

The study identified a 4% increase in employment of individuals with disabilities after the introduction of the PKP Act, primarily in the first few years. This suggests that redefining disability by changing the activity limitation criterion may be a potential pathway for improved outcomes in this population.

The study did not report on outcomes for people with depression, anxiety or suicidal ideation or who experience suicidality.

### **Barriers and facilitators identified**

The employment impact of disability discrimination laws was thought likely to be more negative than legislation prohibiting discrimination of other groups because of the perception of increased hiring costs related to the 'reasonable adjustments' requirement. This change in the disability discrimination law in California provides an opportunity to study the implications of expanding legal protection to additional persons with less-severe disabilities.

### **Other contextual information**

Under the ADA in the US, it was difficult to demonstrate that impairment had substantial limits. Further changes in 1999 excluded individuals with 'mitigating measures' such as, taking medication that may make their condition no longer substantially limiting, from being considered as a person with a disability. Because the requirements to be considered a person with disability under the ADA were, and still are, demanding, a significant portion of individuals with less-severe disabilities were not, and are still not, covered by disability discrimination laws. Many people with depression, anxiety or suicidal behaviours may not be covered by this definition.

## **Study 5: Did the ADA Evolve into Our Ramp to Full Employment? An Analysis of 18 Years of the Americans with Disabilities Act. <sup>8</sup>**

### **Legislation**

This study considers the Americans with Disabilities Act (ADA) 1990 and the ADA Amendment Act (ADAA) of 2008. The purpose of this legislation was to improve the labour market opportunities of people with disabilities.

**Study design:** Longitudinal interrupted time-series study

**Level of evidence:** Level III-3

### **Population**

Adult employees with a disability (n=146,073) aged between 18 and 62 years. The data were taken from the 1988-2010 March Current Population Survey.

Definition of Disability: Employees with a disability were identified by the following question: *"Does [respondent] have a health problem which prevents him/her from working or which limits the kind or amount of work he/she can do?"*

### **Outcome measure(s)**

This paper uses variation in state disability laws and data across 23 years to determine the long-term impact of the Americans with Disabilities Act of 1990 and the ADA Amendment Act of 2008 on the employment of people with disabilities.

## Study findings

The labour force participation rates of workers with a disability declined by 15% over 20 years, from 37% in 1998-1999 to 22% in 2009-2010 after the enactment of the ADA and the amendment Act, ADAA. The average number of weeks worked by people with a disability declined from 15 to 10 over this period. The study concludes that the ADA significantly diminished the weeks worked and labour force participation of people with disabilities, and the ADAA did not significantly influence the weeks worked by people with a disability, but did significantly decrease the labour force participation of people with a disability.

The study did not report on outcomes for people with depression, anxiety or suicidal ideation or who experience suicidality.

## Barriers and facilitators identified

The ADA was weakened by rulings in the US courts affecting the definition of disability, altering who is covered by the ADA, and what is considered a reasonable adjustment, to effectively decrease the cost to employers of hiring employees with a disability.

## Other contextual information

The Federal-State split jurisdiction matches that in Australia and many US states (see above, Button et al) have legislation already and regulations that varied by state.

Since its enactment, the ADA has undergone changes to its two central employment provisions: the definition of disability and the definition of reasonable adjustments.

### Box 2: Summary of studies on Disability Discrimination legislation in the workplace

**Overall strength of evidence:** Limited

**Number of studies:** Five

**Outcome measures:** all five studies considered changes to employment rates of people with a self-reported or recognised disability after enactment of legislative acts. One study also considered if the change in the legislation succeeded in reducing discrimination observed through increases in the relative earnings of people with disability in small firms.

**Conclusion:** There is limited evidence to make any recommendations of effectiveness. However, three large-scale interrupted time-series studies suggest that in the United States and the United Kingdom discrimination in the employment of individuals with a disability increased, at least in the short term, following the enactment of the relevant discrimination legislation. One state-based amendment to the Americans with Disabilities Act in 2008, broadening the definition of disability, led to an increase in employment rates of the disabled whilst the lifting of exemption provisions for small firms did not have a specific effect in the UK.

**Barriers and facilitators:** Some barriers were uncertainty around litigation costs, low levels of awareness about the Act among disabled people and employers and a lack of financial support. Broadening disability discrimination protections had positive effects.

## Education legislation

### Study 1: Are We Moving Toward Educating Students With Disabilities in Less Restrictive Settings? <sup>6</sup>

#### Legislation

In 1975 the US Congress passed Public Law 94–142, the Education for All Handicapped Children Act, later renamed the Individuals with Disabilities Education Improvement Act (IDEA) which mandated that students with disabilities be educated in the “*least restrictive environment*” (LRE). The LRE mandate provides a preference for educating students with disabilities in general education classrooms while allowing separate class services as necessary to meet student needs.

While the mandate has near universal acceptance and support from special educators and advocates, the application in practice remains controversial.

**Study design:** Longitudinal interrupted time series study

**Level of evidence:** Level III-3

#### Population

Students aged 6–17 years of age with a disability from 50 states and the District of Columbia, analysed as elementary (ages 6–11) and secondary (12–17). Data was collected annually at State level by the US Department of Education Office of Special Education Programs, are reported to Congress and made available on the Department of Education website. The data were analysed using five categories: learning disabilities; emotional and behavioural disorders; intellectual disabilities; speech or language impairments; disorders; and other health impairments.

#### Outcome measure(s)

Changes in national Least Restrictive Environment placement trends for students with disabilities from 1990–1991 to 2007–2008.

#### Study findings

There was a significant increase in placements in general education settings and a substantial decrease in more restrictive placements after the legislation enactment. Students with learning disabilities experienced the largest increase in general education placements, whereas students with emotional or behavioural disorders and intellectual disabilities experienced smaller changes in less restrictive placements.

#### Barriers and facilitators identified

Improved identification of students with mild disabilities; design of specialized educational programs; improved levels of teacher training; improved curricula.

#### Other contextual information

Implementation of the Least Restrictive Environment legislation was supported by other initiatives. These include Individuals with Disabilities Education Improvement Act (1997 and 2004) and the No Child Left Behind Act (2002) which together ensured that students with disabilities had access to the general education curriculum.

The No Child Left Behind mandates that all students have teachers who are highly qualified in the content areas they taught.

The alterations to the ways in which states are held accountable for legislative placements occurred in 2004 because of which low performing states received assistance to plan, implement and evaluate improvement strategies.

Due to allegations that school officials coerced parents into administering psychotropic medication to their child, an amendment to the IDEA was added called “*prohibition on mandatory medication*” preventing schools requiring parents to obtain a medication as a condition of attending school or receiving special education services. This amendment which has specific implications for people with depression, anxiety and suicidal behaviour has not been evaluated.

### Box 3: Summary of studies of education disability discrimination legislation

**Overall strength of evidence:** Inconclusive

**Number of studies:** One

**Outcome measures:** Changes in Least Restrictive Placement trends for children with disabilities in schools

**Conclusion:** There is inadequate research of sufficient quality to indicate whether legislation aimed at reducing discrimination of students with a disability is effective. This is due to the lack of studies. Data for people with depression, anxiety or suicidal behaviour were not separately reported.

**Barriers and facilitators:** Whether these changes are beneficial for students with disabilities depends on whether programs are developed in general education to meet individual student needs in a supportive environment.

**Barriers and facilitators:** Whether these changes are beneficial for students with disabilities depends on whether programs are developed in general education to meet individual student needs in a supportive environment.

## Healthcare legislation

### Study 1: Has the Mental Health Act 2001 altered the clinical profile of involuntary admissions? <sup>7</sup>

#### Legislation

The study addressed a change in legislation from the Mental Treatment Act (MTA) 1945 to the Mental Health Act (MHA) 2001 in Ireland. The updated legislation included changes to fulfil the requirements of the United Nations Principles for the Protection of Persons with Mental Illness (1991), and the European Convention for the Protection of Human Rights and Fundamental Freedoms (1954).

**Study design:** Retrospective audit – interrupted time-series study

**Level of evidence:** Level III-3

#### Population

Data were collected in the twelve months prior to and following a change in legislation for treatment of mental health conditions. Clinical data from the West Galway Mental Health Services were collected in (n=175) adults with a mental health condition who were admitted involuntarily into a psychiatric facility.

#### Outcome measure(s)

Comparison data from before and after the enactment of the Mental Health Act 2001 in regard to patients ‘duration of inpatient detention’ and ‘duration of hospitalisation when status changed to voluntary’.



### **Study findings**

There were no significant reductions in admission rates, or changes in the clinical profile or the duration of detention for patients admitted involuntarily. Some evidence of earlier discharge of patients was evident under the MHA 2001. Additionally, more patients stayed at the hospital voluntarily under the MHA 2001 than under the previous legislation (after their involuntary status was discontinued).

Data for people with depression, anxiety or suicidal behaviour were not separately reported.

### **Barriers and facilitators identified**

The authors cited the small sample size as a limitation to the analysis; the small reductions seen after the introduction of the Act may have been statistically significant had the study had a greater power. While this study found no evidence of an effect, the Mental Health Commission report 2007<sup>23</sup> noted a 25% reduction in involuntary admissions nationally (in Ireland) after the introduction of the new legislation. The authors hypothesised that had the Mental Health Commission excluded very brief involuntary admission (less than 24hrs), the results nationally may have been more similar to the regional analysis in their study. They conclude that ongoing evaluation and monitoring are necessary to assess changes over time.

### **Contextual information**

In this small regional study, updating legislation to align with European and United Nations (UN) recommendations did not lead to large observable changes to involuntary admissions immediately after changes were implemented. However, according to the study, national data collected over a similar period did show significant improvements. Considering the extensive developments in the field of psychiatry in the last 60 years, and changes in social norms regarding the perception and rights of people with a mental health condition, this study provides an example where re-working legislation to meet new recommendations provided by respected authorities did not lead to negative outcomes. Furthermore, national data collected over the same period provides evidence that these changes to legislation may lead to improvements for patients in the longer term.

## **Study 2: Irish Mental Health Act 2001: impact on involuntary admissions in a community mental health service in Dublin<sup>9</sup>**

### **Legislation**

The Irish Mental Health Act 2001 introduced three new provisions for all involuntary patients. All were entitled to: automatic legal representation; an independent psychiatric assessment; and a review of their admission by a mental health tribunal within 21 days of detention.

**Study design:** A longitudinal interrupted time-series study

**Level of evidence:** Level III-3

### **Population**

Adult patients admitted to a psychiatric admissions unit in Ireland from January to October 2006 and those admitted from January to October 2007 were retrospectively reviewed.

### **Outcome measure(s)**

Number and duration of involuntary admissions before and after introduction of the Irish Mental Health Act

### **Study findings**

The introduction of more rigorous procedures for involuntary admission did not significantly change the rate or duration of involuntary admissions. The findings that involuntary admissions were significantly more likely to include longer periods of voluntary status (an increase from 2% to

14%) suggest that more care is being taken to revoke involuntary admission orders under the Mental Health Act 2001 than under the Mental Treatment Act 1945.

The data were not reported for people with depression, anxiety or suicidal behaviour as sub-populations; changes in the proportion of involuntary admissions for people with a diagnosis of *“schizophrenia or other non-affective psychoses”* increased following the introduction of the Act, but no further information was provided.

#### **Barriers and facilitators identified**

In Ireland, the first review of admission occurs after 21 days rather than on commitment to the facility. This aligns with the drop in the proportion of involuntary status and suggests that earlier legal representation, such as during commitment to the facility, may increase period of voluntary status.

#### **Other contextual information**

Ireland’s Mental Health Act 2001 was implemented in 2006, replacing the Mental Treatment Act 1945. A similar study in Scotland found that there were fewer involuntary admissions after its Act was implemented, but that admissions were longer.<sup>24</sup>

#### **Box 4: Summary of studies on Mental Health Act legislation**

**Overall strength of the evidence:** Inconclusive

**Number of studies:** Two

**Outcome measure(s):** Number and duration of involuntary admissions before and after introduction of the Irish Mental Health Act (2001).

**Conclusion:** There is insufficient research to indicate whether the introduction of more rigorous procedures for involuntary admissions significantly changed the rate or duration of involuntary admissions. Data for people with depression, anxiety or suicidal behaviour were not separately reported.

**Barriers and facilitators:** Suggestions that earlier legal representation such as, commitment to the facility may increase periods of voluntary status.

# Gaps in the evidence

This Evidence Check found limited evaluation of legislation and regulations to reduce discrimination for people with a disability, those with a mental health condition, or the more narrowly defined and smaller group of people with depression, anxiety or who experience suicidality who were the primary focus of the review. There are significant gaps in the literature and research.

## **Evaluation and high-quality research**

We identified a substantial number of opinion or commentary pieces with no supporting data which could not be included in this review as they provided no evaluations of effectiveness. There seems to be an imbalance between opinion and evidence in this area.

## **Studies focusing upon mental health conditions**

No studies identified in this evaluation specifically considered how legislation affected the discrimination experienced by people with depression, anxiety or who experience suicidality, or considered how disability discrimination legislation has impacted on the individual mental health conditions and types of disabilities covered under disability legislation. This represents an opportunity for future research.

## **Evaluation of legislation in Australia**

This review did not identify any evidence from Australia in the last decade. Evidence of the effect of state, territory and local legislation is needed and represents an opportunity for future research.

## **Implementation Studies**

It may be difficult to evaluate legislative effects retrospectively. Prospective and/or comparative studies of the implementation of legislation and regulations, such as introducing workplace accommodations and monitoring the short and long-term effectiveness, are needed.

# Synthesis of findings

This Evidence Check examined what regulatory or legislative levers have been effective in reducing discrimination for people with depression, anxiety or who experience suicidality. In summarising the evidence, the following was observed:

- There is **no evidence** available on the effectiveness of legislation for reducing discrimination for people with depression, anxiety or who experience suicidality
- There is **inconclusive evidence** of the effectiveness of quota legislation for reducing discrimination of people with a disability in the workplace, and the limited results indicate no positive benefit and possibly detrimental effects.
- There is **limited evidence** on the effectiveness of disability discrimination legislation in the workplace with indications of a short-term decrease in relative workforce participation after legislation
- There is **inconclusive evidence** on the effectiveness of legislation for reducing discrimination for people with a disability in education, although the one study from the US suggested an increase in participation in general education settings.

# Discussion

## Workplace legislation

This Evidence Check review found no evidence in relation to depression, anxiety or suicidality. Mental health conditions globally are considered under the term 'disability'. The research adopts the legislative definitions of disability where mental health conditions may be interwoven.

We found insufficient evidence to interpret the impact of quota legislations, but no evidence that they are effective at reducing discrimination in employees with a disability. The one study conducted in France suggests that **implementing quota legislations may actually increase discrimination**<sup>1</sup>. One of the barriers identified was that employers chose to pay a fine more often than meeting the quota minimum. The legislation allowed for companies to have the choice to either employ people with disabilities to meet the minimum quota, or they could elect to pay a financial contribution in proportion to the gap between the current employment rate and the quota of 6%. Allowing firms to abide by the legal employment obligations without hiring any new individuals with disabilities probably had a counterproductive impact and in turn increased discrimination in people with a disability.

It is interesting that the majority of European countries still have some form of quota system for employing people with a disability, including Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Slovenia and Spain, even though research from France, the UK and Russia<sup>1,17</sup> suggests that they are ineffective for reducing discrimination in people with a disability in trying to obtain work.

The UK decided to remove quota legislation in the 1990s as employees were not disclosing their disabilities out of fear of discrimination, employers were continuously not meeting the minimum requirements, and there was a lack of willingness of government to enforce legislation.<sup>17</sup> In 2013 after many decades of ineffective participation from employers, Russia tightened the laws on quotas to increase responsibility for violations. This caused resistance, with employers feeling undue pressure and resulted in many people with a disability hired facing hidden discrimination, such as being employed but paid only the minimum wage.<sup>17</sup> This suggests that even with tighter government support and enforcements quota legislation are unlikely to effectively reduce discrimination in people with a disability.

The results of legislation in providing workplace adjustments in three large interrupted time-series studies in the US and UK<sup>2,4,8</sup> showed that **the legislation had no impact on increasing employment rates of people with a disability or possibly worsened it**. One study in the UK<sup>2</sup> suggests that the changes to the Disability Discrimination Act resulted in employers absorbing the cost burden of adjustments rather than the employee and is likely to have increased the uncertainty around litigation and cost burden of people with a disability. This results in a lack of knowledge over entitlements and responsibility for both employers and employees.

Similar results were found in a previous literature review considering disclosure by people with a mental health condition. The review suggests that while legislation is in place to protect rightful access to employment, people with mental health conditions may have little knowledge or understanding of these policies or how disclosure of disability and reasonable adjustments may allow them to enjoy full access to employment opportunities.<sup>25</sup> Given that the onus of proving discrimination falls on the individual complainant (i.e., the employee), discrimination legislation arguably provides minimal

incentive to employers to overcome the burden of compliance. Enforcement of the legislation by government agencies - by obliging employers to hire people with a disability on the same grounds as those without - may be more effective in achieving higher employment rates for people with a disability under the scheme.

One way to ensure equality when hiring is to use a structured interview approach. A recent review found that using a structured interviewing approach when interviewing potential employees may reduce discrimination as all individuals will be considered on the answers provided which may leave everyone being considered more equally.<sup>26</sup>

The US study<sup>8</sup> provides evidence that the rate of employment of people with disability has fallen since the enactment of the American's with Disabilities Act in 1990. It is suggested that this may be due to the costs imposed on employers when providing reasonable adjustments. However, this is contrary to individual studies that have shown that the cost of providing adjustments is actually very low, while at the same time having a number of positive outcomes, such as enhanced productivity and an increase of organisational well-being.<sup>27</sup>

Contrary to those that showed an increase in discrimination after the introduction on the acts, two studies that considered specific adaptations to the acts showed a **decrease in discrimination, with the employment rate of people with disability increasing after the statutes were enacted**<sup>3,5</sup>, although the latter could not attribute this directly to the amendment.

The first adaptation was the Prudence Kay Poppink Act in California effective in 2001.<sup>3</sup> The adaptation to the ADA saw the introduction of 'substantially limiting conditions' rather than just 'limiting', the introduction of 'working' to the major life activities and specifically mentioning further medical terms such as 'clinical depression'. The final change was that it was made a punishable offense for an employer to fail to adequately participate in the interactive process with an employee or job applicant to determine effective reasonable adjustments.

The results show that the PKP Act led to an increase in employment for individuals with disabilities. An average increase in employment was observed of 3.8 percentage points in the seven years after the PKP Act (2001–2007). With previous research reporting concerns with the costs of accommodating employees, this study shows positive effects despite this fact which may suggest that broadening discrimination protections could boost employment in other settings.

In 2004, the REPEAL Act was added to the UK's Disability Discrimination Act<sup>5</sup> which allowed all employees the right to reasonable adjustments not just in organisations with over 15 employees. A large interrupted time-series study showed that there was a narrowing of the employment gap between people with and without disability post DDA. The rise in employment among people with disability that occurred after the REPEAL was not concentrated in small firms, despite only small firms being affected by a change in the employment provisions. Therefore, the evidence would suggest the rise in employment was part of a more general trend for people with disability. **If the DDA has had any impact, the study suggests it is through creating a more favourable climate for all workers with disability, such as through raising awareness of the employment potential of people with disability. Previous research has suggested that a more favourable climate could be through providing a safe and inclusive environment.**<sup>28</sup>

## Education legislation

With only one study identified over the last decade, evidence is lacking. However this study considered the adaptation of the Least Restrictive Environment mandate in the US.<sup>6</sup> The LRE mandate provided a clear preference for educating students with disabilities in general education classrooms while offering separate

class services in certain instances when such a placement was deemed more effective or better met the student's needs. Changes in the law have meant that schools will be held accountable for ensuring that students with disabilities make adequate yearly progress related to the curriculum.

The results reported in this investigation suggest that significant changes occurred in placement practices after the legislation was enacted, thus, reducing discrimination. The most significant change was the increase in the number of students who were placed in mainstream classrooms for most of the school day. Before the legislation, 34% of students with disabilities spent most of the school day in mainstream classrooms. This proportion increased to 58% after the legislation was enacted.

It seems likely that this mandate is related to accountability. Highly qualified teachers will serve as a catalyst for the reduction of discrimination toward less restrictive placements to continue in the future. Whether these changes are beneficial for students with disabilities depends on whether programs are developed in general education to meet student's individual needs.

## Healthcare legislation

The results showed that there is insufficient evidence to suggest that legislation has been effective at reducing discrimination in people with a mental health condition. Two studies were identified from Ireland<sup>7</sup><sup>9</sup>. Both studies examined if the new legislation, the Mental Health Act 2001 was able to reduce involuntary admission for people with a mental health condition.

The implementation of the 2001 Act introduced stricter procedures governing involuntary admissions to designated 'approved centres' for treatment of mental disorders, driven by a recognition that the 1945 Act breached the civil rights of involuntary patients.<sup>29</sup> The new Mental Health Act implemented in 2006 added three changes: 1) all involuntary patients were entitled to automatic legal representation; 2) an independent psychiatric assessment and; 3) a review of their admission by a mental health tribunal within 21 days of detention.

Both studies showed no reduction in rates of involuntary admissions. The introduction of more rigorous procedures for involuntary admission did not significantly change the rate or duration of involuntary admissions.

# Directions for future research

There is a need for research focusing on the effect of legislation and regulations on people with depression, anxiety or who experience suicidality. We need to understand to what extent current conceptualisations of 'disability' in the literature correctly identify people with depression, anxiety or who experience suicidality.

Undertaking further work on legislation in Australia is unlikely to prove fruitful as the legislation was enacted many years ago, prior to the introduction of most population-based data collections and in a different economic, education and health care environment. The possible exception is the NMHWS surveys which span the introduction of ADA in Australia.

Systematic scanning for regulatory or legislation changes, either recently or in the future e.g. new Mental Health Acts, or case law affecting the definition of adjustments should commence.

There is a major gap in systematic organisational studies identifying what constitutes successful regulatory mechanisms in workplace, education and health care settings. It is noted that:

1. The presence of state-based legislation and regulations provides an opportunity for comparative studies of their effects on key outcomes of discrimination
2. Comparative studies of the implementation of regulations and its outcomes should be undertaken in all three settings. However simple, usable tools measuring implementation need to be developed
3. We have little understanding about what constitutes a successful outcome for people with depression, anxiety or who experience suicidality, from legislation and related regulations. There is an assumption that proxy measures of participation (e.g. numbers of people with disabilities in employment) capture these. This requires verification
4. **Workplace:** Future research should consider the short and long-term effectiveness and cost effectiveness of the introducing 'reasonable adjustments' in the workplace. Intervention studies assessing the effectiveness of incentives are required
5. **Education:** Future research on effective implementation of legislation in schools and universities should include key educational outcomes such as performance and completion, as well as student and family determined outcomes
6. **Healthcare:** Longitudinal studies on patient experiences and health care workers' perceptions and behaviours are needed, to properly assess whether and how people with depression, anxiety or suicidal behavior experience discrimination. Evaluating retrospective admission data may be useful in determining if the Mental Health Act legislation in Australia has been effective in reducing the rates of involuntary admissions.



# Policy recommendations

The recommendations provided below are to be considered carefully as they were based on the limited evidence identified in the studies included in this review.

## Overall recommendations

1. Establish accessible information regarding the rights of people with a disability, legislation and regulations for service providers, with specific focus on people with depression, anxiety and suicide-related behaviours.
2. Establish Workplace and Health Care standards similar to those in Education and Transport.
3. Systematically collate and make available examples of best practice in inclusive education, employment and health care for people with a disability, and specifically for people with depression, anxiety or who experience suicidality, and where possible provide evidence of effectiveness from range of perspectives.
4. Identify simple measures of anti-discrimination policy, practice and implementation in workplace, education and health care settings for benchmarking. An example of this is the NSE mentally healthy workplace benchmarking tool.
5. Consider implications of mandating data collection that specifically identifies people with a mental health condition in each setting.
6. Support and strengthen policies improving inclusivity and a culture of disclosure of mental health conditions, including for people with depression, anxiety or who experience suicidality.
7. Develop standards in Australia for best practice in making reasonable adjustments in education, employment and health care settings for people with a disability and, specifically, for people with depression, anxiety or who experience suicidality, and where possible provide evidence of effectiveness from range of perspectives, including those of managers, employees, teachers, students, patients and clinicians.

## Positive discrimination policies

There seems little to recommend positive discrimination policies such as quotas, given their negative consequences, unless the balance of organisational benefits and impositions is more clearly identified, regulated and the level of duty strengthened.

# Conclusion

This review identified almost no evidence from the last decade on the effectiveness of legislation or regulations in reducing discrimination in people with a disability, and no evidence specific to people with anxiety, depression or who experience suicidality.

Although there are some conflicting studies in small settings, evidence identified over the last decade suggests that legislative schemes, such as workplace adjustments from disability and quotas systems, have a negative impact on the employment rates of people with a disability, at least in the short term. These studies generally conclude that their findings match studies from earlier decades immediately after the enactment of such legislation. Even though relevant legislation has been implemented, the employment rates for people with disabilities remains low<sup>30</sup>, with a reluctance to hire people with a disability due to stigmatising attitudes<sup>31</sup>, the belief that workplace adjustments are costly<sup>32</sup> and low awareness of programmes that might assist in devising suitable adjustments. Individual studies have shown that adjustments can cost little to nothing, while having a number of positive outcomes such as enhanced productivity and an increase of organisational well-being.<sup>27</sup> There has been surprisingly little evaluation of adjustments - a very recent review identified only three quantitative studies and eight qualitative studies, none of which included people with psychiatric disorders or mental health conditions.<sup>33</sup>

There was no evidence from Australia on the effectiveness of the DDA for reducing discrimination in people with a disability.

The barriers identified throughout this review suggest that the effectiveness of legislation aimed at reducing discrimination is restricted by employers' (lack of) knowledge of the cost of adjustments, their implementation or application, which results in a reluctance to hire people with a disability. Future research should consider the short and long-term effects of the implementation of interventions for workplace adjustments and the cost-effectiveness of providing workplace adjustments in Australian workplaces.

In an Australian context, there is no evidence arising from any robust evaluation of legislation relating to discrimination of people with a disability in education and healthcare. Qualitative research and opinion pieces may guide the development of more systematic evaluation of legislative changes.

Reviews of the barriers for students with disabilities show that teachers' attitudes, knowledge and level of training can affect the inclusion of children with special needs.<sup>21, 34, 35</sup> Future research on effective implementations of legislation in schools and universities should include addressing teachers' knowledge and attitudes towards students with anxiety, depression or who experience suicidality.

There were numerous papers demonstrating that people with psychiatric disorders and mental health conditions had reduced access to physical health care.<sup>36</sup> However, these papers did not assess legislation so they could not be included in this review.

A 2017 RANZCP review of Australian Mental Health Acts demonstrated many differences in the legislative schemes.<sup>15</sup> However, the impact of these legislative differences upon health outcomes has not been evaluated.

This is a complex area with extensive and potentially costly (in terms of both human and financial capital), legislation affecting a substantial proportion of the Australian population with an almost non-existent systematic evidence base.

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# Appendices

## Appendix 1: Searches conducted

RESEARCH LITERATURE [Prior Reading] Workplace			
Medical Subject Headings [MeSH]			
Population	Intervention	Comparison (study design)	Outcomes
workplace*.sh	disability discrimination.tw	trial*.tw	mental illness.tw
employe*.sh	reasonable adjustment*.tw	cohort.tw	mental health.tw
organisation*.tw	legislat*.sh	review.sh	depress*.tw
occupation*.sh	polic*.sh	pre post.tw	anxiet*.tw
organization*.sh	regulation*.tw	evaluat*.sh	mental disorder*.tw
	human right*.sh	program evaluation.sh	suicid*.tw
	disabilit*.sh		mood disorder*.tw
	employment equalit*.tw		mental*.tw
	discrimination act.tw		
	anti-discrimination.tw	Reference check	
	equal opportuni*.tw	cross sectional.tw	
	discrimination.tw	survey.tw	
	discriminatory.tw		
	quota.tw		

**RESEARCH LITERATURE [Prior Reading] Education**

**Medical Subject Headings [MeSH]**

<b>Population</b>	<b>Intervention</b>	<b>Comparison (study design)</b>	<b>Outcomes</b>
student*.sh	disability discrimination.tw	trial*.tw	mental illness.tw
college*.sh	reasonable adjustment*.tw	cohort.tw	mental health.tw
universit*.sh	legislat*.sh	review.tw	depress*.tw
school*.sh	polic*.sh	pre post.tw	anxiet*.tw
educat*.sh	regulat*.tw	evaluat*.sh	mental disorder*.tw
teach*.sh	disabilit*.sh	program evaluation.sh	suicid*.tw
	discrimination act.tw		mood disorder*.tw
	anti-discrimination.tw		mental*.tw
	discrimination.tw		psych*.tw
	discriminatory.tw		
	alternate education.tw		
	accessible education.tw		
	special education need*.tw		
	Inclusive education.tw		
	inclusive school.tw		

RESEARCH LITERATURE [Prior Reading] healthcare			
Medical Subject Headings [MeSH]			
Population	Intervention	Comparison (study design)	Outcomes
patient*.sh	mental health act.tw	trial*.tw	mental illness.tw
clinician.sh	legislat*.sh	cohort.tw	mental health.tw
	polic*.sh	review.tw	depress*.tw
	regulat*.tw	pre post.tw	anxiet*.tw
	disabilit*.sh	evaluat*.sh	mental disorder*.tw
	discrimination act.tw	program evaluation.sh	suicid*.tw
	anti-discrimination.tw		mood disorder*.tw
	discrimination.tw		mental*.tw
	discriminatory.tw		psych*.tw

## Appendix 2: NHMRC Levels of evidence

Level	Intervention <sup>1</sup>	Diagnostic accuracy <sup>2</sup>	Prognosis	Aetiology <sup>3</sup>	Screening Intervention
I <sup>4</sup>	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies	A systematic review of level II studies
II	A randomised controlled trial	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, <sup>5</sup> among consecutive persons with a defined clinical presentation <sup>5</sup>	A prospective cohort study <sup>7</sup>	A prospective cohort study	A randomised controlled trial
III-1	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)	A study of test accuracy with: an independent, blinded comparison with a valid reference standard, <sup>5</sup> among non-consecutive persons with a defined clinical presentation <sup>5</sup>	All or none <sup>8</sup>	All or none <sup>8</sup>	A pseudorandomised controlled trial (i.e. alternate allocation or some other method)
III-2	A comparative study with concurrent controls: <ul style="list-style-type: none"> <li>• Non-randomised, experimental trial<sup>9</sup></li> <li>• Cohort study</li> <li>• Case-control study</li> <li>• Interrupted time series with a control group</li> </ul>	A comparison with reference standard that does not meet the criteria required for Level II and III-1 evidence	Analysis of prognostic factors amongst persons in a single arm of a randomised controlled trial	A retrospective cohort study	A comparative study with concurrent controls: <ul style="list-style-type: none"> <li>• Non-randomised, experimental trial</li> <li>• Cohort study</li> <li>• Case-control study</li> </ul>
III-3	A comparative study without concurrent controls: <ul style="list-style-type: none"> <li>• Historical control study</li> <li>• Two or more single arm study<sup>10</sup></li> <li>• Interrupted time series without a parallel control group</li> </ul>	Diagnostic case-control study <sup>6</sup>	A retrospective cohort study	A case-control study	A comparative study without concurrent controls: <ul style="list-style-type: none"> <li>• Historical control study</li> <li>• Two or more single arm study</li> </ul>
IV	Case series with either post-test or pre-test/post-test outcomes	Study of diagnostic yield (no reference standard) <sup>11</sup>	Case series, or cohort study of persons at different stages of disease	A cross-sectional study or case series	Case series



## Appendix 3: Quality assessment of included studies

Conventional approach based on epidemiological study design	Additional categories utilised in the ACE–Prevention study
<i>Evidence from level I–III study designs</i>	<i>Evidence from level IV studies, indirect or parallel evidence and/or from epidemiological modelling using a mixture of study designs</i>
<p><b>‘Sufficient evidence of effectiveness’</b></p> <p><i>Effectiveness is demonstrated by sufficient evidence from well-designed research that the effect:</i></p> <ul style="list-style-type: none"> <li>• is unlikely to be due to chance (e.g. <math>p &lt; 0.05</math>); and</li> <li>• is unlikely to be due to bias, e.g. evidence* from:               <ul style="list-style-type: none"> <li>- a level I study design;</li> <li>- several good quality level II studies; or</li> <li>- several high quality level III-1 or III-2 studies from which effects of bias and confounding can be reasonably excluded on the basis of the design and analysis).</li> </ul> </li> </ul>	<p><b>‘Likely to be effective’</b></p> <p><i>Effectiveness results are based on:</i></p> <ul style="list-style-type: none"> <li>• sound theoretical rationale and program logic; and</li> <li>• level IV studies, indirect<sup>†</sup> or parallel<sup>†</sup> evidence for outcomes; or</li> <li>• epidemiological modelling to the desired outcome using a mix of evidence types or levels.</li> </ul> <p>The effect is <u>unlikely</u> to be due to chance (the final uncertainty interval does not include zero and there is no evidence of systematic bias in the supporting studies). Implementation of this intervention should be accompanied by an appropriate evaluation budget.</p>
<p><b>‘Limited evidence of effectiveness’</b></p> <p><i>Effectiveness is demonstrated by limited evidence from studies of varying quality that:</i></p> <ul style="list-style-type: none"> <li>• the effect is probably not due to chance (e.g. <math>p &lt; 0.10</math>); but</li> <li>• bias, while not certainly an explanation for the effect, cannot be excluded as a possible explanation (e.g., evidence* from:               <ul style="list-style-type: none"> <li>- one level II study of uncertain or indifferent quality;</li> <li>- one level III or III study of high quality;</li> <li>- several level III or III studies of insufficiently high quality to rule out bias as a possible explanation; or</li> <li>- a sizeable number of level III studies of good quality and consistent in suggesting an effect).</li> </ul> </li> </ul>	<p><b>‘May be effective’</b></p> <p><i>Effectiveness results are based on:</i></p> <ul style="list-style-type: none"> <li>• sound theoretical rationale and program logic; or</li> <li>• level IV studies, indirect<sup>†</sup> or parallel<sup>†</sup> evidence for outcomes; or</li> <li>• epidemiological modelling to the desired outcome using a mix of evidence types or levels.</li> </ul> <p>The effect is <u>probably not</u> due to chance but bias, while not certainly an explanation for the effect, cannot be excluded as a possible explanation.</p> <p>Would benefit from further research and/or pilot studies before implementation.</p>
<p><b>‘Inconclusive evidence of effectiveness’</b></p> <p><i>Inadequate evidence due to insufficient or inadequate quality research.</i></p> <p>No position could be reached on the presence or absence of an effect of the intervention (e.g. no evidence from level I or level II studies and level III studies are available, but they are few and of poor quality.)</p>	<p><b>‘No evidence of effectiveness’</b></p> <p>No position could be reached on the likely credentials of this intervention. Further research may be warranted.</p>

\*Evidence classifications based on those of the National Health and Medical Research Council [39]:

I Evidence obtained from a systematic review of all relevant randomised controlled trials.

II Evidence obtained from at least one properly designed randomised controlled trial.

III-1 Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method).

III-2 Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group.

III-3 Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel control group.

IV Evidence obtained from case series, either pre-test and post-test.

<sup>†</sup> Information that strongly suggests that the evidence exists (e.g. a high and continued investment in food advertising is indirect evidence that there is positive (but propriety) evidence that food advertisement increases sales of those products)

## Appendix 4: Characteristics of the included studies

Source (Author, year)	Country	Study Type	Evidence type	Level of evidence	Population/ setting	n (number of participants)	Legislation	Outcome	Grade
<b>Workplace</b>									
Barnay et al. 2016	France	Longitudinal – interrupted time series	peer reviewed	III-3	Adult employees with a disability	n=1,777	Quota system (Disabled Workers Act 1987)	Employment rates of people with disability REDUCED by 10–28% after introduction of quota system	Inconclusive
Bell and Heitmueller 2009	United Kingdom	Longitudinal – interrupted time series	peer reviewed	III-3	Adult employees	n=46,395	Reasonable Accommodations (Disability Discrimination Act 1995)	Employment rates of disabled people REDUCED by 5–8% after introduction of Act	Limited evidence
Button 2017	United States	Longitudinal – interrupted time series	peer reviewed	III-3	Adult employees	n=6,616	Reasonable Accommodations (Prudence Kay Poppink Act - PKP Act) in (Americans with Disabilities Act of 1990 - ADA)	The PKP Act led to an INCREASE in employment of disabled people by 3.8% over seven years	Limited evidence
Thompkins 2015	United States	Longitudinal – interrupted time series	peer reviewed	III-3	Adult employees with a disability	n=146,073	Reasonable Accommodations (Americans with Disabilities Act of 1990 - ADA)	The ADA’s reasonable accommodation mandate is responsible for 4% of the DECLINE in employment rates of people with disabilities, while the disability anti-discrimination mandate is responsible for 2.4% of the DECLINE	Limited evidence
Jones 2009	United Kingdom	Longitudinal– interrupted time series	peer reviewed	III-3	Adult employees	n=99,649	Reasonable Accommodations (Disability Discrimination Act 1995)	The DDA REDUCED employment of the disabled by about 3%. Employment probabilities of people with a mental health condition have suffered relative to healthier individuals in the post-DDA period.	Limited evidence

Source (Author, year)	Country	Study Type	Evidence type	Level of evidence	Population/ setting	n (number of participants)	Legislation	Outcome	Grade
Jones and Jones 2008	United Kingdom	Longitudinal - interrupted time series	peer reviewed	III-3	Adult employees	n=533,759	Repeal of the small firm exemption (REPEAL 2004) (Disability Discrimination Act 1995)	The probability of non-employment REDUCED for the disabled (relative to the non-disabled) by about 3% after the removal of the small firm exemption	Limited evidence
<b>Education</b>									
McLeskey et al. 2010	United States	Longitudinal - Interrupted time series	peer reviewed	III-3	Students with a disability aged 6–17	not reported	Least Restrictive Environment Mandate (LRE) in Individuals with Disabilities Education Improvement Act, or (IDEA)	The rate of students with a disability being included in general education setting rather than special need classes increased by 24% after introduction of the LRE	Inconclusive
<b>Healthcare</b>									
Murray et al. 2014	Ireland	Retrospective audit – interrupted time series	peer reviewed	III-3	adult patients with a mental illness	n=175	Involuntary admission – Mental Health Act (2001)	There has been no significant reduction in the involuntary detention rates of individuals with the introduction of MHA, however evidence for earlier discharge of patients under the MHA was reported	Inconclusive
Nwachukwu et al. 2018	Ireland	Longitudinal – interrupted time series	peer reviewed	III-3	adult patients with a mental illness	n=99	Involuntary admission – Mental Health Act (2001)	There were 46 involuntary admissions in the 10-month period under study in 2006, or 33.8 per 100,000 population. There were 53 in 2007, or 39.3 per 100,000. Involuntary admissions formed a larger proportion of admissions under the Mental Health Act 2001 than under the Mental Treatment Act 1945. Under the 2001 Act, involuntary patients had longer periods of voluntary status as part of their admissions than under the 1945 Act.	Inconclusive

**Appendix 5: PRISMA diagram**

