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**Detection and prevention of abuse of adults with intellectual and other developmental disabilities  
in care services: A systematic review**

Collins, J & Murphy, G. (2021). Detection and prevention of abuse of adults with intellectual and other developmental disabilities in residential services: A systematic review. *Journal of Applied Research in Intellectual Disabilities*. <http://doi.org/10.1111/jar.12954>

**Abstract**

**Background**

The abuse of adults with intellectual and developmental disabilities in care services seems to be relatively common, although there are anecdotal suggestions that abuse may be predictable and preventable.

**Method**

Evidence related to how abuse is detected and prevented within services was reviewed. Database and ancestry searches were conducted, and the methodological quality of studies assessed using the Mixed Methods Appraisal Tool.

**Results**

A total of 48 articles were reviewed. The characteristics of victims, perpetrators and organisations were summarised. Several recommendations for how abuse can be detected and prevented were made, including better staff training, supervision, and monitoring of services. The quality of studies limits the reliability and validity of research findings.

**Conclusion**

Risk and protective factors related to the abuse of adults with intellectual and other developmental disabilities remain largely consistent. Further research is required to support the implementation of recommendations aimed to detect and prevent abuse.

**Key Words**

Abuse; care quality, intellectual disabilities, developmental disabilities; systematic review

## **Introduction**

Abuse is defined as ‘a violation of an individual’s human and civil rights by any other person or persons’, and it can include physical, psychological, or sexual abuse, neglect or financial exploitation (Department of Health & Home Office, 2000). For the purposes of this review, the term abuse will also be used to refer to institutional/organisational abuse in the form of neglect, mistreatment, and loss of dignity. The high prevalence of abuse of people with intellectual disabilities is well-established, and has been documented in research from many countries, and not confined to particular cultures (e.g., Baladerian et al., 2013; Brown and Stein, 1998; Horner-Johnson & Drum, 2006; Wacker et al., 2008). In one example, between 1998 and 2005, people with intellectual disabilities accounted for just under a third (32%) of adult protection referrals in two counties of England, although they were numerically only around 2% of the population (Beadle-Brown et al., 2010; Mansell et al., 2009). People with intellectual and other developmental disabilities may experience abuse in community settings and in institutional settings. This review will focus on abuse in care settings, inclusive of supported accommodation, residential or nursing units, and hospital inpatient services.

## **Prevalence of abuse**

A variety of studies of adults with intellectual disabilities suggest that they are particularly vulnerable to becoming victims of abuse and neglect (Hughes et al., 2012), though due to the variability of methods of interviewing, definitions of abuse, and sample groups, the proportion of those who have experienced different types of abuse varies widely. For example, depending on these variables, prevalence of sexual abuse experienced by adults with intellectual disabilities is estimated to range between 10% and 80% (e.g., Turk & Brown, 1993; McCabe et al., 1994; McCabe & Cummins, 1996; McCarthy & Thompson, 1997). Although prevalence of sexual abuse may vary across countries, it does appear to be a global concern. In a study conducted in Taiwan, 336 individuals with an intellectual disability were interviewed and 5.4% reported being sexually abused

(Pan, 2007). Martin et al. (2006) reported that women with disabilities in North Carolina, USA were significantly more likely than women without disabilities to have been sexually assaulted within the past year (1.5% vs. 0.6%, respectively), with sexual assault being most common among women who perceived themselves as having a disability (2.1%) and among women with cognitive impairments (1.7%). In another study of 25,756 male and female survey respondents in the USA, Mitra et al. (2011) found that prevalence of lifetime sexual violence victimization was 13.9% among men with a disability compared to 3.7% of men without a disability. Moreover, higher rates of abuse have been reported elsewhere. For example, lifetime prevalence of sexual abuse was reported as 35% in a sample of 260 adults with intellectual disabilities in Spain (Codina & Pereda, 2021). Similarly, in a more recent review conducted by Tomsa et al (2021), the UK had the highest prevalence of sexual abuse in adults with intellectual disabilities ( $r = 34.1\%$ ), compared to the lowest level reported in the USA ( $r = 15.2\%$ ).

Research into other types of abuse (e.g., neglect, physical, psychological, and financial abuse) perpetrated against people with intellectual disabilities is more limited. However, as with sexual abuse, the literature suggests prevalence rates are likely to be higher than for the general population. In a review of five studies conducted in Australia, England, Spain, and the United States relating to the mistreatment of people with intellectual disabilities, Horner-Johnson & Drum (2006) concluded that individuals with intellectual disabilities are typically more likely to have been mistreated than people without disabilities. Powers et al. (2002) found the prevalence of physical abuse amongst 200 women with physical and cognitive disabilities in the USA was as high as 67%. Most recently, when comparing the prevalence of physical and sexual violence against people with disabilities in New Zealand, Malihi et al. (2021) found that more people with disabilities (including physical, intellectual, and psychological) reported higher non-partner physical and sexual violence experiences, compared to those without disabilities.

However, Khalifeh et al. (2013) reporting on the British Crime Survey findings, which included over 45,000 individuals, found no association between being a victim of a violent assault

and an intellectual disability. However, only 170 had an intellectual disability and the data collection techniques (i.e., the length and breadth of the interview guide) may have excluded those with an intellectual disability from taking part. Meanwhile, Cambridge et al. (2011a) conducted an audit of adult protection monitoring data in England. Among the 6,148 referrals, 1,857 were for individuals with an intellectual disability. Sexual abuse was subsequently confirmed in just over 26% of this sample and in two-fifths of referrals for alleged sexual abuse related to abuse in residential services. Mansell et al. (2009) observed that in the UK the incidence of adult protection referrals was continually increasing, which was likely to arise partly from a growing alertness to such issues, and perhaps partly from worsening quality of care (for instance, increased levels of violence in service settings has been reported – Strand et al., 2004).

Crime statistics may also be used to estimate prevalence of abuse, however in most countries they do not provide a true reflection of these issues as relatively few such crimes are reported to the police (for example, Myhill & Allen, 2002, found only 18% of incidents of sexual abuse even in people without a disability were reported to the police in England and Wales, and proportionally fewer reports are likely where victims have intellectual and other developmental disabilities). Therefore, the actual incidence of abuse is likely to be far higher than reported crime figures suggest, despite an increased awareness of abusive practice and developments in policy.

### **Development of policy to prevent abuse**

The Convention on the Rights of Persons with Disabilities from the United Nations (UN-CRPD) states in article 16.1 that “States Parties shall take all appropriate (...) measures to protect persons with disabilities (...) from all forms of exploitation, violence and abuse, including their gender-based aspects” (UN General Assembly, 2007). Furthermore, Disability Rights International highlighted the abuse of adults with intellectual and other developmental disabilities within services as a global issue having conducted several investigations resulting in recommendations for reform in

Mexico (e.g., *Crimes Against Humanity*, 2020), Turkey (*Behind Closed Doors*, 2005), the Republic of Georgia (*Left Behind*, 2013), and Serbia (*Torment Not Treatment*, 2007).

In the UK, the Care Quality Commission (CQC) is responsible for monitoring and regulating the quality of care in hospital and social care settings. Despite developments in UK policy over the years, the CQC reported that in 2018 service-users with intellectual and other developmental disabilities within in-patient settings and residential care were not being offered high quality assessment, care, and treatment. According to CQC, staff working with this population often did not have the necessary skills for such work, and those involved in direct hands-on care were often unqualified (CQC, 2019). Consequently, NICE guidelines underpinned by the Care Act (2014) have been released for *Safeguarding Adults in Care Homes* (2021) to improve safeguarding for all adult residents, although these guidelines and recommendations are not specific to risk factors pertaining to services caring for adults with intellectual and other developmental disabilities.

In the UK and in other national contexts including the USA, Australia, Republic of Korea and South Africa, the research evidence on the increased risk of abuse encountered by adults with disabilities is still developing (Mikton et al., 2014). Evidence suggests that, despite government efforts to reduce the occurrence of abuse and to promote the work of regulatory bodies, cases of poor practice and abuse continue to arise. Care settings are therefore obligated to improve their strategies to firstly prevent and secondly detect abuse within services.

Consequently, this systematic review was conducted to explore the risk factors for abuse and the ways in which abuse within care services and hospital inpatient services for people with intellectual and other developmental disabilities is detected globally. A robust understanding of the risk factors for the abuse, as well as protective factors against the perpetration of abuse can inform policy and practice to prevent further incidents of abuse from occurring. Therefore, the current review seeks to understand the personal characteristics of victims (including sociodemographic characteristics, cognitive and adaptive functioning), and perpetrators of abuse (including sociodemographic characteristics, experience, and training). In addition, authors seek to report on

other risk factors associated with the settings in which abuse occurs (including the size of care services, management practices, relationships, and culture).

The aim was to address the following research questions: 'How is abuse detected within services for adults with intellectual and other developmental disabilities?' and 'How can we improve such detection, with the aim of preventing abuse?'

### **Aims**

The specific aims of the systematic review were to:

- Highlight the risk and protective factors for abuse of adults with intellectual and other developmental disabilities in such services.
- Identify any assessment tools or interventions to detect or to help to prevent abuse of adults with intellectual and other developmental disabilities in services.

### **Methodology**

#### **Design**

A systematic review of the research on the abuse of adults with intellectual and other developmental disabilities in care services was conducted, incorporating quantitative and qualitative studies. Database and ancestry searches resulted in 48 articles that met the specific inclusion criteria. A data extraction template was used to record relevant information under the following headings: Title, author, year of publication, country, sample, study design and methodology, study aims, risk factors for abuse, protective factors against abuse, barriers to detecting abuse, methods of detecting abuse, tools/interventions to detect or prevent abuse, and external monitoring of services. The quantitative and qualitative findings were summarised.

#### **Search Strategy**

The final global literature searches in PsychINFO, PsychARTICLES, Medline, CINAHL Plus with Full Text, Criminal Justice Abstracts, SCOPUS, and PubMed (and ancestry searches) were conducted on 28<sup>th</sup> July 2020. Search terms used were “care regulation”, “care quality assessment”, “safeguarding”, “detecting abuse”, “surveillance”, “closed culture”, “neglect”, “mistreatment”, “maltreatment”, “learning disability service”, “intellectual disability service”, “autism service”, “residential care”, “residential facility”, and “skilled nursing facility”. Studies referring to children, adolescents, and elderly adults (all without intellectual and other developmental disabilities) were excluded, as well as those where the topic of the article did not relate to abuse perpetrated by professionals or staff, or quality of care within services. In addition, non-empirical articles (i.e., books, letters, reviews) were excluded, as were articles not written in English (see Fig. 1). No limits were applied to year of publication or country in which the study took place.

### **Eligibility Criteria**

The current review aimed to consolidate and evaluate the current research on the abuse of adults with intellectual and other developmental disabilities within community and inpatient services. Articles were reviewed to ensure they met the inclusion and exclusion criteria (see Table 1).

### **Table 1**

#### *Eligibility criteria*

[INSERT TABLE 1]

### **Identification of studies**

The initial search resulted in 15,389 papers. After duplicates were removed, 14,196 articles were included in the initial review of titles and abstracts. After the review of titles and abstracts, 14,070 articles were excluded, and 126 articles were identified for full text review. Following a

further review of 126 full text articles against the eligibility criteria, 48 were included in the review – see Figure 1.

### **Data extraction**

Table 2 provides a summary of the key characteristics of the 48 articles included in the review.

## **Results**

### **Study Characteristics**

Twenty-eight of the 48 studies were conducted in the UK, five in Australia, one in Sweden, one in Norway, three in The Netherlands, nine in the USA and one across the UK and USA.

Twenty-one of the 48 studies used a qualitative study design, 15 used a quantitative study design and 13 used mixed methodology.

Authors of 12 of the 48 studies used interviews, 9 used self-report questionnaires/ surveys, 10 undertook documentary analysis, 2 conducted action research, 7 focussed on database analysis, 1 used concept mapping, 4 involved expert consensus/focused group discussion, 1 conducted a Delphi exercise, and 6 included participant observations.

Authors of 19 of the 48 studies recruited a sample of professionals (n = 1,246) and two studies recruited relatives of adults with intellectual disabilities (n = 10). Authors of 14 studies included a sample of adults with intellectual and other developmental disabilities (n = 3,614). More specifically, some studies recruited only adults with intellectual disabilities (e.g., Beail & Warden, 1995; Bigby & Beadle-Brown, 2016), some also recruited adults with developmental disabilities (e.g., autistic adults; Bakken et al., 2012), whilst other studies did not focus on these populations specifically (e.g., Abner et al., 2019; Aylett, 2016; Brown & Stein, 1988). The remaining 18 studies included: 6 ethnographic field/action research studies within services, 5 documentary analyses of sources that referred to adults with intellectual and other developmental disabilities who had been

abused within services, 1 study which included evidence from a literature review, team consensus process, and community partnership, and 3 studies whereby data were collected concerning reported cases of abuse from professional teams.

### **Quality Appraisal**

Each study underwent a standard critical appraisal process using the Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018; 2019). The first author rated the methodological quality of all included articles and articles were given a rating of between 0\* (papers did not meet any of the requirements) to 5\* (all requirements were met, indicating the research was of good methodological quality). There were 21 qualitative studies, 12 mixed methods studies and 15 quantitative studies. They were each appraised on 5 criteria relating to the appropriateness of methodology, data analysis techniques and data collection techniques, the representativeness of the sample, reliability of outcome data, and the researchers' interpretation of research findings (see Table 3).

All articles were rated by the first author in accordance with the MMAT User Guide (2018) and 20 (42%) were rated by the second author (percentage agreement on the 5 criteria for each of 20 papers: 90%). Only half of the included studies were rated 4\* out of a possible 5\* (50%). The remaining studies were rated as 1\* (8.3%), 2\* (14.6%), 3\* (16.7%), or 5\* (10.4%). Most studies were fraught with methodological limitations (e.g., ungeneralisable, unrepresentative samples, lack of matched comparison samples, reliance on retrospective data collection, lack of standardized instruments), which impacted study outcomes and limited the extent to which findings can be relied upon.

When using a quantitative methodological approach to research, the highest quality of research design, with the lowest risk of researcher bias is a randomised controlled trial (RCT), followed by controlled trials. Relatively few of the studies were quantitative and none were randomised controlled trails (for example, of an intervention to reduce the occurrence of abuse), though some did compare two groups (for example, abused and non-abused groups). Several

authors of quantitative studies with non-randomised comparison samples did not recruit a fully representative sample of participants (e.g., Humphreys et al., 2020; Langdon et al., 2006). Due to an overreliance on retrospective data collection, methodologies and database/documentary analyses, missing data was a consistent weakness of included research (e.g., Abner et al., 2019; Hussein et al., 2009). For those studies categorised as quantitative descriptive studies, common methodological limitations included a small and thus unrepresentative sample (e.g., Allington, 1992; Beail & Warden, 1995; Bigby & Beadle-Brown, 2016; Bigby et al., 2015; Fyson & Kitson, 2012). Furthermore, measures used within research with adults with intellectual and other developmental disabilities were frequently reported as inappropriate due to lack of reliability and validity (e.g., Bigby & Beadle-Brown, 2016; Bigby et al., 2015; Furey et al., 1994; Moring et al., 2019).

Perhaps due to the sensitive nature of the topic, most researchers focusing on the abuse of adults with intellectual and other developmental disabilities have taken a qualitative approach to their research, including five studies that were rated a maximum of 5\*. Authors of three of these studies conducted interviews with staff (Fyson & Patterson, 2019; Parley, 2010; Patterson & Fyson, 2016) and authors of one study recruited consumers identified as part of a class action lawsuit on behalf of adults identified as having 'mental retardation' and inappropriately residing in a state psychiatric hospital (Ahlgren-Delzell & Dudley, 2001). The final study rated 5\* used secondary data to examine the conclusions and recommendations reported in executive summaries of adult serious case reviews to ascertain common and diverse themes using thematic analysis methodology (Aylett, 2016). Several authors of studies that took a qualitative approach and were rated less than 5\*, did not support their interpretation of findings with sufficient data, whereby some studies did not provide any quotations from participant interviews or field notes of researchers (e.g., Brown & Stein, 1988; Cambridge, 1999; Fyson & Kitson, 2012). For other studies, there was no clear link between qualitative data sources, data collection, analysis, or interpretation (e.g., Ramsey-Klawnsnik & Teaster, 2012; Rees & Manthorpe, 2010; Rytterström et al., 2013; Zuckerman et al., 1986).

Lastly, all 11 of the studies that utilised a mixed methods design did not meet the criteria for the two different components of the methods involved, therefore limiting the quality of the studies included for review (e.g., Allington, 1992; Bigby & Beadle-Brown, 2016; Bigby et al., 2015).

### **Sociodemographic characteristics**

**Age.** Authors of 15 of the 48 studies reported the age of adults with intellectual and other developmental disabilities who had experienced abuse (n = 4,530; Mean = 37.8). This sample is inclusive of some participants (n = 16) aged between under 20 years of age as reported by Rusch et al. (1986).

**Gender.** Authors of 11 of the 48 studies reported the gender of adults with intellectual and other developmental disabilities who had experienced abuse (n = 2,263), with findings suggesting 52.1% were female (n = 1,180), compared to 47.9% male (n = 1,083).

**Ethnicity.** Authors of four of the 48 studies reported the ethnicities of adults with intellectual and other developmental disabilities who had experienced abuse (n = 2,166). Findings suggested the majority were White (n = 1,908), Caucasian (n = 56), or White British (n = 28). Other ethnicities reported included African American (n = 54), South Asian (n = 1), and black or other minority ethnic group (n = 119).

### **Risk factors**

Authors of 31 of the 48 studies reported on risk factors associated with the abuse of adults with intellectual and other developmental disabilities within services, including victim characteristics, perpetrator characteristics, and organizational factors.

Victim characteristics associated with increased risk of victimization of abuse within services included: (i) service-user's gender, with females being more at risk of sexual abuse compared to males, (ii) more severe learning disability and communication difficulties, (iii) being known to services over time or since birth, (iv) an escalation of challenging behaviour, (v) previous abuse

victimization, and (vi) having some reported involvement in an individual behaviour management programme or being in receipt of a drug to control behaviour (e.g., Bigby et al., 1995; Cambridge et al., 2011b; McCartney & Campbell, 1998). In contrast, Marchetti and McCarthy (1990) reported that abused service-users were similar to the general resident population on basic demographic variables, but more of the abused residents had higher intellectual quotient scores and adaptive behavior levels. However, their findings focused only on confirmed cases of abuse (where presumably the victim was able to speak about what happened) and confounding factors were not accounted for in the analysis.

Individual characteristics associated with the perpetration of abuse included: (i) gender, with males more likely to perpetrate abuse compared to females, (ii) newer employees, (iii) previous perpetrators of abuse, (iv) staff's inability to cope with increasing stress or staff's inappropriate means of relieving stress, and (v) staff perceptions of, or attitudes towards service-users (e.g., Beail & Warden, 1995; Brown & Stein, 1988; Furey et al., 1994; Hollomotz, 2012; Marsland et al., 2007; Turk & Brown, 1993). For example, beliefs that adults with intellectual disabilities are fundamentally different, they are 'too disabled', and 'have no skills' were a risk factor for abuse (e.g., Bigby & Beadle-Brown, 2016). Such beliefs may underlie experiences of inequality between staff and service users characterized by distortions of power and control (Manthorpe & Martineau, 2015).

Organizational risk factors associated with a higher risk of abuse within services related predominantly to managerial weaknesses, poor implementation of policy, and inadequate monitoring of services. Issues concerning inadequate monitoring procedures included a lack of outside monitoring visits and poor monitoring of service users placed out of area (e.g., Cambridge et al., 2011a). Poor management was characterized by a lack of managerial support for front-line staff, negative relationships between staff and senior colleagues, a need for staff training, resistance to change, barriers to collaborative working (e.g., a lack of team meetings and reflective practice), and poor communication and/or engagement with the commissioning local authority and parents/carers (Allington, 1992; Hutchison & Kroese, 2016; Manthorpe & Martineau, 2015). Furthermore, a lack of

community participation, repeated cancellations of appointments, poor quality care plans, and isolated or poorly maintained environments also characterized services where abuse had been reported (Bigby & Beadle-Brown, 2016; Cambridge, 1999; Marsland et al., 2007). Organisations at increased risk of abusive practice showed evidence of poor processes for reporting concerns and minimal attempts to implement adult protection policies. Staff shortages, high staff turnover, and poor recruitment strategies further negatively impacted the quality of services and increased the risk of abuse (e.g., Manthorpe & Martineau, 2015; Marsland et al., 2007; Parley, 2010).

Gillett and Kroese (2003), focused on the quality of life of service-users in low and high performing residential services for people with intellectual disabilities. Interestingly, the researchers found no difference in staff turnover or staff absence between the low and high performing service, though their sample size was small and this may be the reason for their finding (several factors such as work satisfaction, and job strain have been identified in other literature (e.g., Hatton et al., 2001). Gillett and Kroese did however discover differences in staff culture between the low and high performing services, with organizational norms of “confrontation and criticism”, “win against others”, “compete rather than co-operate”, “never making a mistake” and “the setting of unrealistically high goals” being associated with the lower performing service. More recent research suggests organizational risk factors and norms can create a culture of abuse characterized by the absence of caring values, service isolation, ineffective staff supervision, intimidation, a punishing regime, institutionalized practice, inexperience, anti-professionalism, barriers to disclosure, poor support for whistleblowers, deficiencies in service audits, staff collusion, poor inter-professional communication, poor recognition of staff skills, lack of clarity in care management, difficulties in market management and poor service satisfaction (Cambridge, 1999; Humphreys et al., 2020; Marsland et al., 2007; Rytterström et al., 2013; Taylor & Dodd, 2003).

### **Protective factors**

Authors of 13 of the 48 studies reported on factors that protected against the abuse of adults with intellectual and other developmental disabilities within services. Protective factors included the service-users characteristics, the characteristics of staff, and organizational factors.

Protective characteristics of service-users included an ability to report information (i.e., communication skills), knowledge of their right not to be violated, control over their own safeguarding (i.e., knowledge of how to self-report a safeguarding concern), an understanding of social relationships, good coping strategies, and assertiveness skills (Ahlgrim-Delzell & Dudley, 2001; Hollomotz, 2012).

Protective factors related to the characteristics of staff included: positive attitudes towards residents, acknowledgment and attendance to difference, recognition and respect for service-user preferences, intrinsic motivation, confidence to challenge bad practice, and having a positive relationship with senior colleagues, whereby staff felt listened to and valued (Bigby et al., 2012; Bigby & Beadle-Brown, 2016; Calcraft, 2007; Gillett & Kroese, 2003; Hutchison & Kroese, 2016). McCartney & Campbell (1998) reported greater percentages of perpetrating staff in the 'newer' staff category (i.e., employed for no longer than one year) and fewer in the long-term staff category (employed for over five years) in comparison to a random sample of direct care staff. Interestingly, some researchers also reported that newer staff more often reported abuse. These apparently contradictory findings require further exploration.

Protective organizational factors included the clear leadership of a manager whose values were aligned with those of other staff and the organization. Other protective factors included clear guidance at work, supervisors who worked alongside staff (e.g., modelling, monitoring and correcting practice), good communication, shared decision making, the embracing of new ideas and external visitors, good connections with the community, good relations with the safeguarding team, regular staff training, independent staff appraisal and supervision, a consistent use of disciplinary procedures for staff, support for whistleblowers, reflective practice, shared responsibility for practice quality, enabling teamwork, and person centered working practices (Bigby et al., 2012;

Bigby & Beadle-Brown, 2016; Calcraft, 2007; Cambridge, 1999; Furey et al., 1994; Hutchison & Kroese, 2016; Jones & Kroese, 2006; Rees & Manthorpe, 2010; Rytterström et al., 2013). Protective factors created a caring culture characterized as coherent, respectful, enabling for service-users, and motivating for staff. Arguably, the establishment of a positive culture that was operationalized and embedded through structures such as formal policy and processes protected against abusive practice.

### **Barriers to detecting abuse**

Authors of 11 of the 48 studies reported barriers to detecting abuse within services for adults with intellectual and other developmental disabilities. A key barrier to the detection of abuse was a lack of awareness and knowledge amongst staff regarding what constitutes abuse and when intervention is warranted (Aylett, 2006). For example, evidence suggested that neglect and financial abuse of adults with intellectual and other developmental disabilities was frequently minimized and not reported (Brown & Stein, 2000; Taylor & Dodd, 2003). Arguably a lack of guidance may lead to differing thresholds for reporting abuse. Research conducted by Taylor and Dodd (2003) found staff were reluctant to report abuse if they had not witnessed the abuse themselves, if they felt there was a lack of evidence, if the service user had a history of making false allegations, if the service-user was suffering from poor mental health, or if they had concerns over breaking service-user confidentiality (Taylor & Dodd, 2003). In addition to a lack of physical or witness evidence to support allegations of abuse, cognitive deficits and associated communication difficulties of service users made allegations more difficult to assess and abuse more difficult to detect (Fyson & Kitson, 2012; McCartney & Campbell, 1998; Ramsey-Klawnsnik & Teaster, 2012; Turk & Brown, 1993).

Other barriers included a lack of inter-professional collaboration and expert consultation, inconsistent approaches to investigations, delayed reporting of abuse, delayed investigations, biased and leading questioning of victims by untrained professionals, lack of time to conduct a thorough investigation, and lack of resources (Ahlgren-Delzell & Dudley, 2001; Cambridge et al., 2011a; Fyson

& Kitson, 2012; Ottmann et al., 2017; Ramsey-Klawnsnik & Teaster, 2012; Zuckerman et al., 1986).

Fyson & Kitson (2012) reported that the amount of time investigations took to complete led safeguarding to be perceived in a negative light by staff and highlighted apparent tensions between undertaking safeguarding work and fulfilling ongoing care management duties.

Using a Delphi exercise, Ottmann et al. (2017) sought the opinions of 249 disability services staff and managers working in child and adult disability services in Australia on the key barriers to effective safeguarding. Barriers they reported included organizational issues (e.g., downgrading the severity of incidents, not investigating allegations of abuse, unsatisfactory policies and practice guidelines, hierarchical processes, poor relationships and communication, lack of staff training, a culture committed to preserving the status quo), defective management practice, client issues (e.g., the limited capacity of and lack of support provided to people with disability), and external factors (e.g., a lack of resources).

### **Improving practice to detect abuse**

In addition to the identification of protective factors identified, the current review highlighted several areas where practice could be improved to increase the likelihood of abuse being detected within services. Authors of 22 of the 48 studies made recommendations for how staff within services could improve practice to effectively detect abuse. Recommendations included the need for staff to observe, report and question the causes of any changes in the behaviour of service-users (e.g., increased anxiety, increased disruptive or aggressive behaviour; Turk & Brown, 1993), and to build relationships with service users' and their families, whilst ensuring they were aware of the process for raising concerns (Bright et al., 2018; Hollomotz, 2012). Furthermore, staff should have a good knowledge of the service-users they are working with and ensure the service-user's interests are identified and prioritized through reflective practice (Bigby et al., 2012). Policies and protocols should be followed, and immediate action taken by staff when abuse is reported, whereby information provided by alleged victims of abuse is documented, and relevant authorities are

informed (Bigby et al., 2012; Ramsey-Klawnsnik & Teaster, 2012). Staff should receive regular unannounced visits by supervisors, regular clinical supervision and training (e.g., on topics including the relational dynamics of abuse, appropriate boundaries, patterns/signs of abuse, appropriate response to suspected cases of abuse) to ensure they feel both supported and empowered in their role (Allington, 1992; Furey et al., 1994; Fyson & Patterson, 2019; Hutchison & Kroese, 2016; Marchetti & McCarthy, 1990; Ottmann et al., 2017; Ramsey-Klawnsnik & Teaster, 2012).

Service managers should look to build collaborative working relationships between professionals within their services, service-user families, and external professionals (e.g., adult protection services) through effective communication, training, regular team meetings, and structured team building activities (Lymbery, 2005, 2010; Mickan & Rodger 2005; Rees & Manthorpe, 2010). In addition, managers should be supportive of staff who report abuse. Knowledge of the Public Interest Disclosure Act (1998) would help to ensure staff who report abuse do not suffer detrimental treatment or victimization (Calcraft, 2007). Managers should be seen to act on concerns being raised and provide appropriate feedback regarding the investigation and offer opportunities for reflection on incidents (Calcraft, 2007).

Services need to be sufficiently open to outside scrutiny to increase the probability of abuse being detected and detailed advice is required for care staff about when and how to involve other agencies following an allegation of abuse being raised (Cambridge et al., 2011a; Hussein et al., 2009). Recruitment strategies for new staff should include an assessment of intrinsic motivation to work in care and background checks (Hutchison & Kroese, 2016; Ramsey-Klawnsnik & Teaster, 2012). Bright et al. (2018) further suggested that involving families of service-users with intellectual and other developmental disabilities in the training and the recruitment of staff could help to increase understanding and empathy towards each other.

Most importantly, service-users themselves should be given more control and feel empowered to direct their own safeguarding by providing clear information to them about what constitutes abuse and the safeguarding referral process (Hollomotz, 2012). For example, findings

highlighted the importance of providing sex education and assertiveness training to people with intellectual disabilities to help with prevention and early detection of sexual abuse (Cambridge et al., 2011a; Turk & Brown, 1993). Additionally, service users should have an independent advocate who can notice and raise concerns on their behalf (Bright et al., 2018).

### **Tools to detect abuse**

Authors of 6 of the 48 studies referred to specific tools that could be used to aid in the detection of abuse within services for people with intellectual and other developmental disabilities, including surveillance technology, an assessment of culture, ward atmosphere and social climate.

Evidence from the current review suggested surveillance technology could contribute to the detection of abuse, and autonomy of service-users, but only if it is set in a truly person-centered approach (Niemeijer et al., 2015). Surveillance technology should support and enhance the capabilities of the client, reduce restrictions, be based on a vision of its benefits and risks, involve staff who are equipped to work safely with surveillance technology, be user-friendly, and attend to the client (Niemeijer et al., 2013). A clear and well-formulated vision for the use of surveillance technology that is understood and supported by all stakeholders is imperative to successful implementation (Niemeijer et al., 2014).

Evidence also suggested that the assessment of culture, atmosphere and social climate could contribute towards the detection of abuse. Bakken et al. (2012) in Norway examined whether adults with intellectual disabilities could reliably rate the Ward Atmosphere Scale-Real Ward (WAS-R), a self-report questionnaire comprised of 82 items rated on a four-point scale measuring involvement, support, spontaneity, autonomy, practical orientation, personal problem orientation, angry and aggressive behaviour, order and organisation, program clarity, staff control, and staff attitude to expressed feelings. However, findings suggested participants required help to complete the questionnaire with the interviewer needing to reformulate difficult phrases or questions with double negation as well as provide practical examples of the content of the questions. Adults with moderate

intellectual disabilities compared to those with mild intellectual disabilities found the items particularly challenging and they could not rate the questionnaire items reliably. In contrast, findings of a study conducted by Langdon et al. (2006) showed that the Correctional Institutions Environment Scale (a measure of social climate focusing on involvement, support, personal problem orientation, and staff control) could be used to investigate the staff and service-users' perceptions of the social climate within a low and a medium secure service for adults with intellectual disabilities, and the scale was valid for use within forensic services. Most promisingly, the Group Home Culture Scale, which measures seven dimensions of organizational culture in group homes, has acceptable content and face validity (Humphreys et al., 2020). The Group Home Culture Scale is a self-report staff questionnaire measuring: (i) the extent to which staff practices are directed towards enhancing the well-being of each resident, (ii) whether there are divisions within the staff team that have a detrimental influence on team dynamics, (iii) the extent to which the supervisor engages in leadership practices that transmits and embeds the culture, (iv) staff positive perception of organizational support and priorities, (v) the extent to which staff value the residents and the relationships they have with them, (vi) whether there is social distance between staff and residents, where staff regard the residents to be not fundamentally different from themselves, and (vii) the extent to which staff members' values align with the espoused values of the organization (Humphreys et al., 2020).

### **External monitoring**

Authors of 15 of the 48 studies made recommendations for how external monitoring of services could be improved to increase the likelihood of abuse being detected within services. Recommendations included ensuring investigators have sufficient time, resources, supervision, access to expert consultation and appropriate training (e.g., on the risk factors for abuse) to ensure they are able to investigate a case thoroughly, promptly, and with as much information as possible (Abner et al., 2019; Ramsey-Klawnsnik & Teaster, 2012; Rees & Manthorpe, 2010). Furthermore,

information concerning early indicators of abuse needed to be shared with professionals and family carers to enable them to identify and express their concerns. Likewise, information about early indicators was also required within the wider care system, so that commissioners, senior managers, and decision makers were equipped to recognize and respond effectively to such concerns (Marsland et al., 2007). Additionally, research protocols should be utilized to ensure researchers visiting services also respond systematically and effectively to disclosures (Sammet et al., 2019).

More broadly, a review of adult protection record-keeping practices was recommended to ensure a more consistent and detailed approach across regions for adult protection case management and social work practices (Cambridge et al., 2011b; Fyson, 2015; Manthorpe & Martineau, 2015), as well as computerized recording and case management tools which aid, rather than hinder, effective practice (Fyson & Kitson, 2012). More specifically, Manthorpe & Martineau (2015) recommended the monitoring of out-of-area placements and effective collation of concerns. Further, mental health services and practitioners should routinely engage and utilize mainstream adult protection-reporting arrangements (Cambridge et al., 2011a; Cambridge et al., 2011b). Other recommendations included unannounced inspections, and assessments of the culture of care providers (Halladay & Harrington, 2015). Further research is required that includes the development of observational tools and evaluation measures that can be used by researchers and regulators to better identify abuse within services (Bigby & Beadle-Brown, 2016; Hollomotz, 2012). It was recommended that facilities that fail to adequately protect residents, fail to train employees regarding resident abuse, or fail to respond appropriately to alleged abuse must be sanctioned and compelled to improve (Ramsey-Klawnsnik & Teaster, 2012).

### **Discussion**

The current systematic review aimed to highlight the risk and protective factors for abuse of adults with intellectual disabilities and other developmental disabilities in care services, and to identify any assessment tools or interventions designed to prevent or detect abuse.

This is the only review to date to provide a comprehensive summary of the global evidence related to the abuse of adults with intellectual and other developmental disabilities within services. Several risk and protective factors have been highlighted relating to victim characteristics (e.g., severity of learning disabilities and associated communication difficulties), perpetrator characteristics (e.g., low intrinsic motivation to work in care, limited ability to cope with increasing stress, and perceptions of service-users as 'different' from them), and organisational factors (e.g., poor leadership, staff shortages and/or high staff turnover, lack of reflective practice).

To explain abuse only in terms of single risk factors would be to fail to address the complex underlying structures that ultimately lead to an incident of abuse occurring (Conner et al., 2011). Crossmaker (1986) and Sobsey (1994), 35 years ago, recognised the complexity of the issue when they concluded that the isolation inherent in institutional settings contributed directly to abuse. Since this time the deinstitutionalization movement and implementation of relevant policies have contributed towards increased awareness and efforts to improve the detection and prevention of abuse (through increased monitoring and interventions for example). Nevertheless, as recognized by Fisher et al. (2016) the victimization of people with intellectual and other developmental disabilities across the lifespan concerns a much wider societal problem that warrants further investigation and intervention. The administrative structures and processes, such as ignoring the issue of abuse, the punishing or ignoring of reporters of suspected abuse, and imposing unrealistic policies and procedures contribute to an atmosphere in which abuse becomes pervasive. Both Crossmaker and Sobsey reference the dehumanization and devaluing attitudes of staff towards residents as major contributors to abusive environments, and although their research occurred some years ago, it remains relevant today. Given the difficulties experienced by the UK government in implementing *Transforming Care* (DOH, 2012), it is perhaps unsurprising that the risk factors for abuse have largely remained consistent over the last thirty-five years. Nevertheless, the current review demonstrates that there is a growing body of literature pertaining to the risk and protective factors for abuse of adults with intellectual and other developmental disabilities. Findings of the current review

therefore support recommendations made most recently following the independent review into Whorlton Hall (Murphy, 2020a).

Authors of included studies make several recommendations for preventing and detecting abuse within care services, including: better supervision and training for direct care staff and investigators, better monitoring of out of area placements, increased inter-professional collaboration and expert consultation, regular unannounced visits by supervisors/inspectors, CCTV monitoring, and more control given to service-users themselves so that they can direct their own safeguarding with the support of advocacy services. Despite self-referrals accounting for only 4% of referrals for adult protection (Mansell et al., 2009), and increased awareness being highlighted as a protective factor against abuse, the current review failed to identify any empirically evaluated interventions aimed at reducing abuse. It is also important to consider that different types of abuse may require somewhat different approaches to detection and prevention, for example emotional or financial abuse is far less likely to be identified using CCTV monitoring in comparison to physical or sexual abuse.

In addition, findings of the current review highlighted the relative paucity of research that has been conducted to devise and implement empirically validated, robust and reliable assessment tools for external investigators to utilise, to inform their overall assessment of a service. The effect of culture on service quality is a variable that has been highlighted but an area where little research has been conducted (Walsh et al., 2010). The similarities between cultures in community and hospital provision care services have been noted and more recently poor service culture has been identified as a risk factor for the occurrence of abuse (Hutchison & Kroese, 2016). Some generic tools focusing on social climate and ward atmosphere have been devised and trialed in intellectual disability services (e.g., Langdon et al., 2006). However, tools developed specifically for this population may prove particularly useful and echo the recommendations proposed in the most recent independent review of the CQC conducted by Murphy (2020b). The current review identified only one tool, the

Group Home Culture Scale (Humphreys et al., 2020), which is promising but was not developed to specifically detect abuse and has not yet been standardized or sufficiently empirically evaluated.

### **Strengths and Limitations of the Review**

All studies identified were included within this review despite their methodological quality; this decision was made due to a lack of completed controlled studies. Furthermore, including both qualitative and quantitative data led to a more comprehensive and deeper understanding of the abuse of adults with intellectual disabilities and other developmental disabilities. However, the review suggested current research is largely of poor methodological quality, composed predominantly of retrospective descriptive data, interviews with staff or carers, ethnographic field studies, or case study designs and/or small sample sizes. Only a minority of studies included representative a sample of people with intellectual and other developmental disabilities. Consequently, the validity and reliability of research findings is limited by the methodological limitations of the included studies. Furthermore, although the review highlighted the abuse of adults with intellectual and other developmental disabilities as a global issue, the majority of research has been conducted in the UK, therefore limiting our understanding of how abuse is detected and prevented in other countries.

### **Future Research**

Further research is required to explore the connection between culture and abuse, and how cultures could be changed in a conscious way. Furthermore, a better understanding of how cultures impact on caregiving practice is needed. In addition, more research on high quality services is needed to identify further protective factors and share good practice. Lastly, empirically evaluated interventions to reduce the likelihood of abuse occurring in the future, and research to produce an assessment tool to detect and predict abuse that is reliable and valid would be beneficial. Continued research in the area is critical to identify methods of preventing and detecting abuse of adults with

intellectual and other developmental disabilities and to increase the chances of early case identification, improved investigation, prevention, and intervention techniques.

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**Table 1**

*Eligibility Criteria*

<b>Inclusion Criteria</b>	<b>Exclusion Criteria</b>
Empirical research (i.e., published articles that referred to primary or secondary data that was based on direct observations, assessments, interviews, surveys, database, or documentary analysis).	They were a book, book chapter, magazine, letter, or review.
Written in English.	The article related to the abuse of children, adolescents, or older people without intellectual and other developmental disabilities.
The article related to the abuse of adults with intellectual and/or other developmental disabilities.	The topic of the article did not relate to abuse or quality of care (i.e., the detection of abuse, prevention of abuse, assessment of abuse).
The article related to abuse within services.	The article related to abuse that had been perpetrated in the family rather than within community or inpatient services.

**Table 2**

*Table of included studies*

Article number, author, date	Title	Country	Study sample	Environment	Study design & method	Study aims	Main Outcomes	MMAT Rating
1. Abner et al. (2019)	Victim, Allegation, and Investigation Characteristics Associated with Substantiated Reports of Sexual Abuse of Adults in Residential Care Settings	USA	410 reports of sexual abuse (61% females, mean age = 49.8).	Residential care	Quantitative (database analysis)	To identify characteristics of investigations of sexual abuse concerning vulnerable adults residing in facility settings that were associated with case substantiation.	18% of sexual abuse cases were substantiated. 51% of alleged perpetrators were facility staff compared to 25% who were residents. Cases that were substantiated were more likely to feature nursing home residents, older victims, female victims, and allegations of physical contact between the alleged perpetrator and victim.	4
2. Ahlgrim-Delzell & Dudley (2001)	Confirmed, unconfirmed, and false allegations of abuse made by adults with mental retardation who are members of a class action lawsuit	USA	1220 people with mental retardation who were part of a class action lawsuit in North Carolina. 111 reported an allegation of abuse, neglect, exploitation, or mistreatment during an interview for the Thomas S. Longitudinal Study between November 1996 and February 1998 (50 males, 61 females, aged 20-100, mean age = 41).	State psychiatric hospital, mental retardation centre, group home, nursing home, supervised living, family home, care home, other	Qualitative (interviews)	To explore differences in confirmed, unconfirmed, and false allegations of abuse made by consumers with mental retardation regarding type of abuse and perpetrator.	A total of 1220 consumers were interviewed and 111 (9.1%) of these consumers made 158 allegations of abuse, neglect, or mistreatment. There were 85 unconfirmed claims (53.8%), 40 false allegations (25.3%), and 33 confirmed claims (20.9%) of abuse. Most frequent allegations were physical assault (39.9%), rape (20.9%) and mistreatment (18.4%).	5
3. Allington (1992)	Sexual Abuse within Services for People with Learning Disabilities: Staffs' Perceptions, Understandings of, and Contact	UK	107 staff at both Health Authority and Local Authority services.	Day care and residential facilities	Mixed methods: questionnaire	To ascertain the extent to which staff working with people with learning disabilities are aware of issues around the topic of sexual abuse.	32% of staff never discussed the subject of abuse in their work settings even though all felt people with learning disabilities to be at risk of sexual abuse, with 68% believing them to be at a higher degree of risk than other people.	2

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	with the Problem of Sexual Abuse							
4. Aylett (2016)	Universal learning findings from an analysis of serious case review executive summaries	UK	114 serious case review executive summaries in adult safeguarding conducted between 2000-2012. In 28 cases (31.5%) the victim was characterised as having an intellectual developmental impairment.	Residential and community	Qualitative (survey)	To examine the conclusions and recommendations reported in executive summaries of adult serious case reviews to ascertain common and diverse themes which might support universal learning.	Analysis of the recommendation produced the following categories: provision for staff training and developing competence; reviewing and improving policy, procedure and guidance; facilitating information sharing and communication within and across agency; developing effective governance systems; holistic multi-agency assessment, planning, monitoring and review; develop dynamic risk assessment and risk management by assertive outreach to vulnerable adults; engaging with a wide range of agencies and interests in Safeguarding Vulnerable Adults.	5
5. Bakken et al. (2012)	The ward atmosphere scale for psychiatric inpatients with intellectual disability: A pilot study.	Norway	17 patients with mild and moderate intellectual disability and 21 professionals	Specialised psychiatric inpatient unit for adults with intellectual disability at the Oslo University Hospital in Oslo	Quantitative	The aim of this study is to examine whether adults with intellectual disabilities can reliably rate the Ward Atmosphere Scale – Real Ward (WAS-R).	Patients with mild intellectual disabilities were able to answer the WAS with some help, whereas patients with moderate intellectual disabilities had major difficulties with understanding more than half of the WAS items.	1
6. Beadle-Brown et al. (2010)	Adult Protection of People with Intellectual Disabilities: Incidence, Nature and Responses	UK	1926 adult protection referrals recorded by the two local authorities between 1998 and 2005 (42% male, aged 17-100, mean age= 38.9)	See Cambridge, Milne, Mansell, Beadle-Brown & Whelton (2011)	Quantitative (database analysis) See Cambridge, Milne, Mansell, Beadle-Brown & Whelton (2011)	To report the key findings from a study of adult protection referrals collected by two English local authorities during 1998-2005 for people with intellectual disabilities.	There was an increase in the number of referrals from 1998-2005. 67% of referrals were for a single type of abuse; most frequently physical followed by sexual. More abuse in residential care settings. Victims were most likely to be referred to adult protection by a member of staff and less likely by family. Only 5% of cases involved multiple perpetrators, which was significantly less than non-intellectual disabilities population. People with intellectual disabilities were	3

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							more frequently abused by a man rather than a woman (52%). 46% of referrals related to abuse by staff/managers.	
7. Beail & Warden (1995)	Sexual abuse of adults with learning disabilities	UK	211 clients with a learning disability over the age of 16 referred to the Clinical Psychology Service over a 4-year period from 1988-1991	Living at home, hospital residents, supported living in the community	Quantitative descriptive-Survey	To report a clinical study of reported or disclosed sexual abuse of adults with learning disabilities.	Abuse reported in 22 (25%) of cases. 86% self-disclosed abuse. Majority of alleged perpetrators were men (n = 19) and known to the victim (n = 18). Just over half the sample reported one perpetrator (n = 12) and multiple occasions of abuse (n = 13). The police were involved with a minority of clients (n = 5), however no-one was prosecuted. 17 clients suffered contact abuse and 1 suffered non-contact abuse.	4
8. Bigby & Beadle-Brown (2016)	Culture in better group homes for people with intellectual disability at severe levels	Australia	Supervisors, direct support staff, 17 residents, and resident families across 3 group homes (aged 21-48, mean age = 36.5)	3 Group homes	Mixed Methods: Case study (observations and interviews)	To analyse culture in better performing services.	Several dimensions of culture identified in better care homes compared to underperforming care homes.	4
9. Bigby et al. (2015)	'We just call them people': Positive regard as a dimension of culture in group homes for people with severe intellectual disability.	Australia	As above	3 group homes	Mixed methods: Case study (observation, interviews, and document review)	To analyse culture in better performing services.	Staff regarded residents positively, as members of a common but diverse humanity, and recognized sameness and difference. Staff provided care in the context of a relationship characterized by warm feelings, which for many extended to a deep emotional bond. Staff used both their own perspectives and their understanding of the service-user's own perspective to guide their practice.	4
10. Bigby et al. (2012)	Uncovering Dimensions of Culture in Underperforming Group Homes for People with Severe Intellectual Disabilities	Australia	Staff and residents in 5 group homes (23 men and 3 women with intellectual disabilities, aged 34-70, mean age = 49).	5 group homes	Qualitative-ethnographic approach (field notes and interview)	To explore the characteristics and dynamics of the culture operating in five group homes that were underperforming in terms of community participation and	Five categories were developed, each of which represented the conceptualization of an element of the culture in the group homes: 'misalignment of power holder values with organisations espoused values', 'otherness', 'doing for not with', 'staff centred' and 'resistance'.	4

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						engagement outcomes.		
11. Bright et al. (2018)	Families' experiences of raising concerns in health care services: An interpretative phenomenological analysis	UK	7 relatives of people with intellectual disabilities	Residential care, supported living or attended respite care	Qualitative (interviews)	To increase understanding of the experiences of families of people with intellectual disabilities when noticing and raising concerns in services.	Three superordinate themes: the nature and importance of concerns, relationships between families and staff and the process of raising concerns.	4
12. Brown & Stein (1988)	Implementing Adult Protection Policies in Kent and East Sussex.	UK	397 adult protection alerts logged between 1 July 1995 and the end of June 1996 by Kent and East Sussex Social Services Departments as adult protection. People with learning disabilities account for 3%.	Community, residential	Mixed methods (action research)	To report the extent and nature of adult protection cases dealt with by two Social Services Departments during a twelve-month period in 1995–6	Financial abuse experienced by 4% of people with IDD (n = 5), and sexual abuse by 33% (n = 44). Men featured as alleged perpetrators of abuse in 70% reports. Of the 397 initial alerts, 255 led to formal investigation and 84 to a case conference and 78 led to adult protection plans being put in place. Formal sanctions were taken in only 10 (3 per cent) of cases. Of the 397 cases overall, 91 (23 per cent) involved liaison with the police and 82 (21 per cent) with colleagues in the health service. There was a considerable range in reporting levels between and within both counties.	1
13. Brown & Stein (2000)	Monitoring adult protection referrals in 10 English local authorities	UK	Data was collected from 10 areas in England on 245 adult protection referrals during this six-month period in 1998 (n=79 with learning disabilities). 29 of the 79 people with learning disabilities were abused whilst in residential care.	Residential and community services	Mixed Methods (action research)	To ascertain whether and if so, how local authorities were generating and collating consistent data as the basis for evaluating their practice.	Data collated by social services departments varied from one area to another and many common problems were highlighted. The quality of information generated was partial indicating a lack of agreed procedures, poor recording practice and a lack of clarity regarding who is a 'vulnerable adult', what constitutes 'abuse' and when 'intervention' is warranted.	2
14. Brown et al. (1995)	The sexual abuse of adults with learning disabilities: Report of a	UK	29 service managers/practitioners from 21 agencies who returned information on 109 sexual abuse cases	Hostel, hospital, other facilities, or with their family	Quantitative-Survey	To conduct a UK incidence survey of the sexual abuse of adults with learning disabilities.	Of the 109 cases reported, 85 were proven or had enough evidence to suggest that sexual abuse was highly likely to have occurred. 53% of the 85 exposed the abuse themselves. Both	3

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	second year incident survey		reported in the area covered by the South East Thames Regional Health Authority for the years 1991 and 1992				women and men are at risk of being sexually abused. The largest proportion of victims were in the severe to moderate ID categories (IQ 21-50). Over 60% of clients had additional problems. Perpetrators were predominantly men and usually known rather than strangers. Collaborative working between agencies was inconsistent, as were the actions taken by agencies following allegations of abuse.	
15. Calcraft (2007)	Blowing the whistle on abuse of adults with learning disabilities	UK	Focus groups conducted with adult protection coordinators, social care inspectors, and trainers of social care staff. Interviews conducted with 8 social care workers who had raised concerns about abuse in their workplace, 1 trainer and 6 managers who had investigated incidents involving whistleblowing on abuse or had experience of developing and implementing whistle-blowing policies.	Interviewees worked in day and residential care settings across the statutory, voluntary, and private sectors.	Qualitative (interviews and focus groups)	To explore the experience of whistleblowing on abuse in social care settings and look at how whistleblowing can help to protect people with learning disabilities from abuse.	The types of adult protection concern that people raised in the study included: inappropriate use of control and restraint, physical assault, rough movement and handling, deprivation of privacy and choice, verbal abuse, and sexual abuse. Themes that emerged included support for whistle-blowers, feedback for whistle-blowers, impact on working relationships, organisational culture, and power, recognising and challenging abuse, closed teams and powerful individuals, negative views of whistleblowing, management, and organisational culture.	4
16. Cambridge (1999)	The First Hit: A case study of the physical abuse of people with learning disabilities and challenging behaviours in a residential service	UK	Interviews with staff (sample size not reported).	Residential service	Qualitative: Case study (documentary analysis & interviews)	To describe the circumstances surrounding the physical abuse of persons with learning disabilities and challenging behaviours in a residential service and the general findings of a related inquiry.	Several risk factors surrounding the circumstances of abuse were reported including a culture of abuse that had a number of identifiable characteristics (e.g., isolation, ineffective staff supervision, intimidation, institutionalised practice, inexperience, anti-professionalism, barriers to disclosure, poor support for whistle-blowers, deficiencies in service audit, poor inter-professional communication, poor ?? recognition skills, lack of clarity	2

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							in care management, difficulties in market management and service satisfaction).	
17. Cambridge et al. (2011)	Patterns of Risk in Adult Protection Referrals for Sexual Abuse and People with Intellectual Disability	UK	Adult protection monitoring data collected by two local authorities (1857 referrals). Mean age 28.9 years, 42% male.	See Cambridge, Milne, Mansell, Beadle-Brown & Whelton (2011)	Quantitative (database analysis) See Cambridge, Milne, Mansell, Beadle-Brown & Whelton (2011)	To compare referrals for alleged sexual abuse and other types of abuse for people with intellectual disability.	The annual number of referrals for sexual abuse for people with intellectual disabilities has increased over time. Sexual abuse was confirmed in just over a quarter of all referrals (26.4%). In 58.3% of referrals received practitioner input for 1-6 months, and the mean time referrals were open was 127.58 days.	2
18. Cambridge et al. (2011)	A study of adult protection referrals in two local authorities: an overview of findings for managers and practitioners	UK	6,148 adult protection referrals (all care groups) recorded by the two local authorities between 1998 and 2005.	32% of referrals were for people with IDD.	Quantitative (database analysis)	To report the key findings from a study of adult protection referrals collected by two English local authorities during 1998-2005.	63% of adults with intellectual disabilities had been referred for a single type of abuse. Physical abuse and neglect most frequently occurred in residential care. Large geographical differences in outcome of referral, likely related to local adult protection demands, resource availability, demographic and service characteristics, local competence.	3
19. Furey et al. (1994)	Abuse and neglect of adults with mental retardation in different residential settings	USA	944 cases of abuse/neglect (excluding sexual abuse) over a 5 year period of adults aged 18-59 with mental retardation.	Group homes, community training, homes, own residence, institutions.	Quantitative (database analysis)	To examine the prevalence of abuse and neglect in residential settings for adults with mental retardation.	There was significantly more abuse and neglect in institutions than in the service-user's own home. There was no difference between the rate of abuse in institutions as compared to the rate of abuse in group homes.	4
20. Fyson (2015)	Building an Evidence Base for Adult Safeguarding? Problems with the Reliability and Validity of Adult Safeguarding Databases	UK	14 safeguarding managers from Adult Social Care and Health teams.	Full range of adult social care specialist teams	Mixed methods: Case study (interviews and database analysis)	To evaluate adult safeguarding in one English local authority, focusing on how the adult safeguarding database was populated from case records and how the	There was a significant increase over time in the number of adult safeguarding alerts received by the authority. An increase in workload had not resulted in increased resource allocation. Only half of the designated 'adult safeguarding managers' who were interviewed were able to correctly define the meanings of the recommended terms under which	4

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						resultant data were utilised.	adult safeguarding outcomes are recorded.	
21. Fyson & Kitson (2012)	Outcomes following adult safeguarding alerts: a critical analysis of key factors	UK	42 safeguarding alerts in one English local authority	All adult social care teams	Mixed methods (survey)	To report some of the findings from an evaluation of adult safeguarding in one English local authority.	15 cases resulted in a “substantiated” outcome, 18 cases a “not substantiated” outcome, 1 case was on-going, and 8 cases were recorded as “not determined”.	4
22. Fyson & Patterson (2019)	Staff understandings of abuse and poor practice in residential settings for adults with intellectual disabilities	UK	56 care staff and frontline managers working across 14 residential services in England	Residential services	Qualitative (Interviews)	To explore staff understandings of abuse and poor practice in residential services for people with intellectual disabilities.	Staff struggled to define either “abuse” or “poor practice”, focussing more on individual acts or omissions than on institutional practices. When faced with vignettes, staff demonstrated a lack of agreement regarding what constitutes either abuse or poor practice.	5
23. Gillett & Kroese (2003)	Investigating organisational culture: A comparison of a high and a low performing residential unit for people with intellectual disabilities	UK	Staff groups from two matched residential units for people with intellectual disabilities (n = 15).	Small community-based residential services for people with intellectual disabilities	Quantitative non-randomised (cross-sectional study).	To investigate organisational culture in small community-based residential services for people with intellectual disabilities.	The unit with better quality outcomes demonstrated a more positive organisational culture. The lower performing group home had significantly higher scores for oppositional style (e.g., norms of confrontation and criticism). Competitive (e.g., norms of win against others and compete rather than cooperate), and perfectionism (norms of never making a mistake and setting unrealistically high goals). Reflecting a task rather than person orientation. No differences in turnover or absence figures were found between the two units.	3
24. Halladay & Harrington (2015)	Scandals of abuse: Policy responses in intellectual disabilities	UK/USA	Two case studies (two scandals). In total, 46 different NYT stories and 14 secondary sources were identified for the New York case study. 90 BBC television and radio	Care homes	Qualitative (documentary analysis)	To compare two scandals related to the care of individuals with intellectual disabilities in the USA and the UK.	Both cases offered confirmatory support to extant theories of abuse, and to wider policy trends within intellectual disabilities.	3

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			stories, and 14 secondary sources for the UK case were identified.					
25. Hollomotz (2012)	'A lad tried to get hold of my boobs, so I kicked him': an examination of attempts by adults with learning difficulties to initiate their own safeguarding	UK	Adults with mild/moderate learning difficulties (n = 12 men, n = 17 women, aged 22-68)	50% lived with their parents/other family member, 25% lived in residential group settings, and 25% lived on their own/ with a partner.	Qualitative (interviews)	To highlight the resistance skills that are prevalent amongst some people with learning difficulties.	50% of participants reported an incident of physical or emotional violence. All participants knew of their right not to be violated or exploited. Most were able to identify risks and plan protective interventions in hypothetical scenarios. In most cases respondents described that risky situations are best handled by asking for assistance.	3
26. Humphreys et al. (2020)	Development and psychometric evaluation of the Group Home Culture Scale	Australia	343 professionals	Group homes	Mixed methods (literature review, expert review, cognitive interviews, exploratory factor analysis).	To develop the Group Home Culture Scale to measure the influence of organizational culture in group homes for people with intellectual disabilities on staff behaviour and residents' quality of life.	The scale measured seven dimensions of group home culture (supported well-being, factional, effective team leadership, collaboration within the organisation, valuing residents and relationships, social distance from residents, alignment of staff with organisational values). The content and face validity of the scale were acceptable.	4
27. Hussein et al. (2009)	Articulating the improvement of care standards: The operation of a barring and vetting scheme in social care	UK	5294 care staff referrals to the Protection of Vulnerable Adults list between 2004-2006.	All care settings	Quantitative (documentary analysis)	To investigate the decision making of the POVA scheme and make recommendations for policy.	Almost all employers had undertaken inquiry and disciplinary processes prior to referring the staff member to POVA. In 6% of referrals there had there been no employer's investigation, in 77% employers' investigations had resulted in some form of disciplinary action. 58% of referrals were closed and the worker not placed on the list. Referrals from residential care settings and those relating to financial, emotional or sexual forms of alleged abuse were more likely to be confirmed. Among referrals where a decision had been made, it took the	4

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							POVA team an average of 5.8 months to be in a position to reach that decision.	
28. Hutchison & Kroese (2016)	Making sense of varying standards of care: the experiences of staff working in residential care environments for adults with learning disabilities	UK	6 professionals	Residential care	Qualitative (interviews)	To describe the experiences of six care workers currently working in residential homes.	Three things were found to be important aspects of care workers experiences: degree of positive relationship reciprocity; value congruence and intrinsic motivation; and experiences of environmental and organisational constraints.	4
29. Jones & Kroese (2006)	Service users' views of physical restraint procedures in secure settings for people with learning disabilities	UK	Service-users (7 males, 3 females) with mild learning disabilities who had been restrained at least once in the previous 6 months. Mean age 39.3 years.	2 secure residential facilities for people with learning disabilities	Qualitative (interviews)	To examine the views of service-users from secure residential facilities who are restrained frequently.	Restraint can lead to potentially abusive situations. Staff should try other approaches before restraining someone. Service-users were divided on whether restraint calmed them down and whether staff enjoyed performing restraint. Four participants indicated that they had experiences abusive restraint procedures. Two participants described incidents of improper and abusive practice that had been dealt with by appropriate bodies.	4
30. Langdon et al. (2006)	Social climate within secure inpatient services for people with intellectual disability	UK	37 professionals and 18 service-users with mild/moderate intellectual disabilities and history of engagement in criminal offending behaviour.	Low/medium secure service	Quantitative- Between subject's design	To investigate the social climate of two different types of secure units ('low' secure vs. 'medium' secure) contained within the same facility for offenders with intellectual disabilities.	Service-users rated the units in a more positive direction than staff on some sub-scales of the Correctional Institutions Environment Scale (CIES): involvement, support, personal problem orientation, and staff control. Service-users rated the 'low' secure unit in a more positive direction than the 'medium' secure unit on practical orientation & personal problem orientation. However, on selected sub-scales there were staff vs	2

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							SU?? differences. The CIES may be a valid instrument for use within forensic services for people with intellectual disabilities.	
31. Manthorpe & Martineau (2015)	What Can and Cannot Be Learned from Serious Case Reviews of the Care and Treatment of Adults with Learning Disabilities in England? Messages for Social Workers	UK	21 Serious Case Reviews	Range of services	Qualitative (documentary analysis)	To investigate Serious Case Reviews for vulnerable adults where the person who was at risk of harm had a learning disability.	3 themes were identified (staff relationships, family and carers, and biography and chronology) resulting in the need for better care plans for people with complex needs, to monitor of out-of-area placements, and ensure issues of concern are collated.	4
32. Marchetti & McCarthy (1990)	Abuse of persons with mental retardation: Characteristics of the abused, the abusers and the informers.	USA	55 cases of confirmed abuse/neglect during a 33-month period in 4 state-operated residential facilities for persons with mental retardation.	Residential facilities	Quantitative (database analysis)	To analyse data from confirmed incidents of abuse in public residential facilities.	The number of confirmed incidents of abuse were relatively small, that. direct care staff members committed and reported most incidents of abuse (46%), and that most. Incidents of abuse occurred on the second shift (11am-3pm). Although abuse also occurred frequently occurred (40%) on the first shift also (6-9am). Abused residents were similar to the general resident population on basic demographic variables, but more abused residents were in the upper IQ and adaptive behaviour levels. Abuse committers were more often males than females.	4
33. Marsland et al. (2007)	Abuse in care? The identification of early indicators of the abuse of people with	UK	17 professionals from community learning disability teams, social services	Residential and day services (including family home,	Qualitative (interviews & file review)	To contribute to the prevention of abuse through the identification of 'early indicators'.	Physical, sexual, psychological, financial, and material abuses, and neglect reported. Physical and psychological abuses were the forms of abuse most frequently reported. Many of the cases	2

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	learning disabilities in residential settings		departments and voluntary sector agencies, and 3 family members who had been in direct contact with services that went on to be identified as settings in which abuse of people with learning disabilities had occurred	residential home, own home, private hospital, NHS service, specialised residential unit).			described involved multiple abuses, where individuals were abused in a variety of ways. Perpetrators of the abuses described included staff members and other residents. Themes that emerged were: the decisions, attitudes and actions of managers, the behaviours and attitudes of staff, the behaviours of people with learning disabilities, isolation, service design, placement planning and commissioning, and fundamental care and the quality of the environment.	
34. McCartney & Campbell (1998)	Confirmed abuse cases in public residential facilities for persons with mental retardation: a multi-state study	USA	494 cases of abuse reported across 23 facilities people with mental retardation (63% male, mean age 34.94)	Large state operated residential facilities	Quantitative (documentary analysis)	To examine abuse incidents and the individuals involved in them to identify variables to be considered in the development of abuse prevention strategies for public residential facilities.	Neglect and physical abuse were the most common types of abuse. 89% of abuse was reported by facility staff members. Over 22 months, 494 cases of abuse were reported.	4
35. Moring et al. (2019)	After Disclosure: A Research Protocol to Respond to Disclosures of Abuse and Sexual Violence in Research with Adults with Intellectual Disabilities	USA	Professionals	N/A	Mixed methods (literature review, team consensus process, community partnership)	To develop a protocol for responding effectively to disclosures of sexual violence from adult research participants with intellectual disabilities.	A research protocol was developed to ensure effective response following disclosure of abuse.	1
36. Niemeijer et al. (2013)	The place of surveillance technology in residential care for people with intellectual	The Netherlands	9 professional carers, 2 intellectual disability physicians, 2 developmental psychopathologists, 8 academics, 4 personal	Small-scale establishments and larger-scale residential care.	Mixed methods (concept mapping: brainstorming,	To provide an overview of how surveillance technology is viewed by (care) professionals and	Surveillance technology in the residential care of people with intellectual disabilities should support and enhance the capabilities of the client, contribute to the reduction restrictions, be based on a vision of its benefits and risks, involve	4

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	disabilities: Is there an ideal model of application		coaches and 5 support workers.		prioritising, clustering, processing by the computer and analysis)	ethicists working in the field, by investigating what the ideal application of ST in the residential care for people with ID might entail.	staff who are equipped to work safely, be user-friendly, and attend to the client.	
37. Niemeijer et al. (2015)	The experiences of people with dementia and intellectual disabilities with surveillance technologies in residential care	The Netherlands	A dementia special care unit of a nursing home (n = 43) and care facility for people with intellectual disabilities (n = 42).	Long-term residential care facilities	Qualitative: Ethnographic field study.	To explore how clients in residential care experience surveillance technology to assess how surveillance technology might influence autonomy.	Two themes emerged: (1) coping with new spaces which entailed clients: wandering around, getting lost, being triggered, and retreating to new spaces and (2) resisting the surveillance technology measure because clients feel stigmatized, missed the company, and do not like being “watched.”	4
38. Niemeijer et al. (2014)	The use of surveillance technology in residential facilities for people with dementia or intellectual disabilities: A study among nurses and support staff	The Netherlands	Same as Niemeijer et al., (2015)	Same as Niemeijer et al., (2015)	Qualitative: Ethnographic field study. Same as Niemeijer et al., (2015)	To investigate how surveillance technology is being used by nurses and support staff in residential care facilities for people with dementia or intellectual disabilities, in order to explore the possible benefits and drawbacks of this technology in practice	Five overarching themes on the use of surveillance technology emerged from the data: continuing to do rounds, alarm fatigue, keeping clients in close proximity, locking the doors, and forgetting to take certain devices off.	4
39. Ottmann et al. (2017)	Barriers and Enablers to Safeguarding Children and Adults within a Disability Services Context: Insights from an Australian Delphi Study	Australia	249 disability services staff and managers	NR	Mixed methods (Delphi)	To capture the views of disability services staff and managers regarding barriers and enablers to effective safeguarding.	Participants identified 170 items related to key barriers to effective safeguarding summarised as organisational issues, management practice, workforce development, client capacity building and contextual factors emerged. The knowledge and attitudes section of the Delphi survey highlighted serious gaps in the capacity of staff to identify basic risk factors, identify signs of abuse and neglect, respond to signs of abuse and	4

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							neglect, and work with clients who experienced trauma because of maltreatment.	
40. Parley (2010)	The understanding that care staff bring to abuse	UK	20 care staff working within learning disability services (including 5 NHS employees, 5 local authority employees, 5 from the voluntary sector and 5 from the private sector).	NHS, voluntary and private sector	Qualitative (interviews)	To explore staff views relating to vulnerability and abuse of adults with learning disabilities.	Themes included interpretation of abuse, bullying, neglect, power, infringement of rights, right to liberty, right to have children. Physical and sexual abuse was readily identified by most informants. However, bullying, neglect and infringement of rights were less frequently identified. Some did not consider these to be abuse.	5
41. Patterson & Fyson (2016)	"I was gobsmacked": care workers' responses to BBC Panorama's 'Undercover care: the abuse exposed': Invoking mental states as a means of distancing from abusive practices	UK	56 service managers and care workers across three types of service provider	Residential & supported living services	Qualitative (interviews)	To explore how care workers, report their reactions and the interactional strategies they use to construct themselves as shocked and disbelieving, and thus as oppositional to the extreme practices in the programme.	Participants invoked states of 'shock' and 'disbelief' to describe their response to the abusive practices presented in the programme.	5
42. Ramsey-Klawnsnik & Teaster (2012)	Sexual Abuse Happens in Healthcare Facilities-What Can Be Done To Prevent It?	USA	28 personnel who had investigated cases of sexual abuse	Healthcare facilities	Qualitative (interviews)	To gather data that could help assist victims and hold perpetrators accountable in case of sexual abuse perpetrated against residents in healthcare facilities.	The amount of training the workers had received in conducting sexual abuse investigations varied considerably with 11% of investigators having had no formal training, despite over half reporting that sexual abuse is more challenging to investigate than other allegations.	4
43. Rees & Manthorpe (2010)	Managers' and staff experiences of adult protection allegations in	UK	13 managers from three services and ten care workers accused of abuse and later exonerated.	Residential services	Qualitative (interviews)	To consider the impact of adult protection investigations on managers of	Positive applications of adult protection recalled as well as the impact of false allegations. Many of the issues raised by the managers related to perceived	3

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	mental health and learning disability residential services: A qualitative study					residential services and staff accused of harm or abuse, investigated and then exonerated.	inflexibility and their lack of discretion when applying policy.	
44. Rusch et al. (1986)	Abuse-provoking characteristics of institutionalized mentally retarded individuals.	USA	80 abused retarded clients in residential settings and 80 non-abused clients	Residential setting	Quantitative-non-randomized (Retrospective data collection from medical and program records)	To examine the abuse-provoking characteristics of institutionalized mentally retarded individuals.	Six characteristics (social quotient, aggression, verbal ability, age, self-injurious behaviour, and ambulation) were significant in differentiating the abused from non-abused retarded individuals.	2
45. Rytterström et al. (2013)	Care culture as a meaning-making process: A study of a mistreatment investigation	Sweden	16 professionals	Community residential housing unit offering special services to persons with intellectual disabilities.	Qualitative: Case study (interviews, focus group, field study, document analysis)	To understand and explore institutional mistreatment from a care culture perspective.	Two different care cultures were identified: the service culture, which was need-oriented and emphasized freedom in care provision, and the motherhood culture, which was characterized by protection and safeguarding of the vulnerable residents.	4
46. Taylor & Dodd (2003)	Knowledge and attitudes of staff towards adult protection.	UK	150 professionals (33 males and 117 females), with various job titles including home manager, staff nurse, support worker, day service officer and community care assistant. 14 participants worked with people with learning disabilities.	Mental health, learning disability, physical or sensory disability, older adult, or multiple service user setting, or the police service.	Qualitative (interviews)	To explore staff knowledge and attitudes towards abuse and the reporting procedures to further understand why abuse is not reported.	Issues concerning staff awareness and attitudes towards abuse highlighted. Participants showed confusion and a lack of clarity over what they would consider abuse. Several beliefs emerged to explain why participants might not decide to report abuse (e.g., client confidentiality, risk making things worse, doubt about whether the abuse had taken place, collusion). Lack of understanding for the procedure of how to report abuse.	3

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47. Turk & Brown (1993)	The sexual abuse of adults with learning disabilities: Results of a two year incidence survey.	UK	119 incidents of sexual abuse of adults aged 18+ with learning disabilities over 2 years	One large regional health authority (10 health districts, four social service districts, 5 joint social service/health districts)	Quantitative descriptive: Survey	To report the incidence of sexual abuse of adults with learning disabilities.	84 of the cases were proven/had sufficient evidence to suggest the sexual abuse was highly likely to have occurred. In a further 25 cases there was continued ongoing concern, in the absence of substantive evidence, that sexual abuse was occurring. Victim and perpetrator characteristics were identified. Most of the evidence was obtained from verbal disclosures of abuse, behavioural/ psychosomatic change, and circumstantial evidence. In 27% of cases only 1 agency were involved in the investigation. No action was taken against the alleged perpetrator in almost half of cases (48.2%). Minimal support for the victim post abuse was offered in 71% of cases.	4
48. Zuckerman et al. (1986)	Protection and advocacy agencies: National survey of efforts to prevent residential abuse and neglect	USA	All State protection and advocacy agencies surveyed (52 States). Directors from 43 states responded.	State institutions and community based residential services	Mixed methods (quantitative survey with some open-ended questions)	To determine the involvement of protection and advocacy agencies in the investigation of abuse and neglect of persons with developmental disabilities in residential facilities.	Protection and advocacy agencies do play a role in abuse and neglect prevention, despite few staff members/resources having been allocated to investigations.	1

**Table 3**

*Quality appraisal table*

Methodological Quality Criteria		Ratings																				
Article Number		2	4	10	11	15	16	22	24	25	28	29	31	33	37	38	40	41	42	43	45	46
<b>Qualitative</b>	1.1 Is the qualitative approach appropriate to answer the research question?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	X	Y	Y	Y	Y	Y	Y	Y	Y
	1.2 Are the qualitative data collection methods adequate to address the research question?	Y	Y	X	X	Y	X	Y	X	X	X	Y	X	Y	X	X	Y	Y	Y	Y	Y	Y
	1.3 Are the findings adequately derived from the data?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	?	Y	Y	Y	Y	Y	X	Y	Y
	1.4 Is the interpretation of results sufficiently substantiated by data?	Y	Y	Y	Y	Y	X	Y	Y	Y	Y	Y	Y	X	Y	Y	Y	Y	Y	Y	Y	X
	1.5 Is there coherence between qualitative data sources, collection, analysis, and interpretation?	Y	Y	Y	Y	X	X	Y	X	X	Y	X	Y	Y	Y	Y	Y	Y	X	X	X	X
Article Number		1	5	6	17	23	27	30	34	44												
<b>Quantitative non-randomized</b>	3.1 Are the participants representative of the target population?	Y	X	X	X	X	Y	X	Y	Y												
	3.2 Are measurements appropriate regarding both the outcome and intervention (or exposure)?	Y	Y	Y	Y	Y	Y	X	Y	X												
	3.3 Are there complete outcome data?	X	X	X	X	?	X	?	X	?												
	3.4 Are the confounders accounted for in the design and analysis?	Y	X	Y	X	X	Y	Y	Y	X												
	3.5 During the study period, is the intervention administered (or exposure occurred) as intended?	?	X	Y	Y	Y	Y	Y	Y	Y												
Article Number		7	14	18	19	32	47															
<b>Quantitative descriptive</b>	4.1 Is the sampling strategy relevant to address the research question?	Y	Y	Y	Y	Y	Y															
	4.2 Is the sampling presentative of the target population?	X	X	X	Y	Y	X															

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	4.3 Are the measurements appropriate?	Y	Y	Y	?	X	Y						
	4.4 Is the risk of non-response bias low?	Y	X	X	Y	Y	Y						
	4.5 Is the statistical analysis appropriate to answer the research question?	Y	Y	Y	Y	Y	Y						
<b>Article Number</b>		<b>3</b>	<b>8</b>	<b>9</b>	<b>12</b>	<b>13</b>	<b>20</b>	<b>21</b>	<b>26</b>	<b>35</b>	<b>36</b>	<b>39</b>	<b>48</b>
<b>Mixed methods</b>	5.1 Is there an adequate rationale for using a mixed methods design to address the research question?	X	Y	Y	X	X	Y	Y	Y	X	Y	Y	X
	5.2 Are the different components of the study effectively integrated to answer the research question?	Y	Y	Y	Y	Y	Y	Y	Y	X	Y	Y	Y
	5.3 Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	X	Y	Y	?	X	Y	Y	Y	?	Y	Y	?
	5.4 Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	Y	Y	Y	?	Y	Y	Y	Y	Y	Y	Y	?
	5.5 Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	X	X	X	X	X	X	X	X	X	X	X	X

Note. X=No, Y=Yes, ?= Can't tell