Report of a systematic review of literature on learning disability nursing staffing levels, and its relation to the safety, quality and the delivery of compassionate nursing care.

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Overall review objective

The overall objective of this review was to summarise the best evidence available on safe staffing levels for qualified learning disability nurses to inform the implementation of the national ***Compassion into Practice Programme*** sub group for learning disability nursing; task area 5 ***'Ensuring we have the right staff with the right skills in the right place: Learning Disabilities'***

Questions

More specifically this review sought to answer the following questions;

1 What, if any, studies, nationally or internationally have been specifically undertaken, and reported on to inform safe staffing levels of learning disability nurses in the delivery of care in a range of different care contexts?

2 What themes of relevance to learning disability nursing, and the delivery of safe, compassionate care can be surfaced from national and international literature?

3 To identify whether there are any learning disability specific workforce tools, which can be used in a range of practice settings to inform the level of learning disability nursing staff needed to deliver safe and compassionate care for people with learning disabilities?

Background and context

The learning disability nursing community has for some time been concerned about the declining number of learning disability nurses, along with a reducing number of education commissions from HEIs by SHA,s [now Local Education and Training Boards LETBs] (Gates, 2010; U.K. Chief Nursing Officers, 2012; Glover and Emerson, 2012; CfWFI, 2012). This is especially relevant in the contemporary complex landscape of service provision for people with learning disabilities, with a multiplicity of service providers, making it difficult to locate strategic responsibility for 'sensible' work force planning, and yet where all epidemiological evidence concerning people with learning disabilities points to a need for increasing the numbers of this part of the nursing workforce (Gates, 2010). This, in the recent past, prompted the Professional Advisory Board for Nursing and Midwifery, DH, England to commission a task and finish group to explore this issue. Subsequently a report was submitted to, and accepted by the DH that made a number of important recommendations (Gates, 2011). This report prompted a UK review of learning disability nursing with support from the four Chief Nursing Officers. This subsequently led to the publication of *'Strengthening the Commitment: The Report of the UK Modernising Learning Disabilities Nursing Review'* (U.K. Chief Nursing Officers, 2012). This report contains 17 recommendations, two of which specifically relate to workforce planning.

1. *The four UK health departments and the independent/voluntary sector should establish a national collaborative to enable better understanding of, and planning for, a high-quality and sustainable-registered learning disabilities nursing workforce across all sectors.*
2. *Systems to collect workforce data are required in each country, with links across the UK, for workforce planning for future provision of learning disabilities nursing. These should be able to capture information on service provision, educational and research requirements and should cover the independent/voluntary sector.*

(U.K. Chief Nursing Officers, 2012, 55).

A consequence of this report were the establishment of a number of work streams, and actions that have commenced and are on-going across the UK to influence workforce planning, and education commissioning decisions in relation to the learning disability field of nursing; all work streams report to the UK steering group that is Chaired by Dr Ben Thomas from the DH.

The issue of declining numbers of the nursing workforce more generally, as well as identifying adequate and safe staffing levels, has also more recently been the subject of a number of important reports. For example the RCN (2010b) published its report '*Sustaining the long view'*. This report identified a context where constraints on NHS funding policies existed alongside an aim to reduce staffing, with a simultaneous juxtaposition of intentions to improve productivity by manipulating skill mix and changing work patterns. This report presented data on the then current nursing workforce including the number of new entrants to the UK nursing register, the collapse in international recruitment, and the 'in and out' flow of nurses from the UK. The report pointed to concerns about an unprecedented uncertainty concerning the NHS nursing workforce. It also pointed to significant challenges of an ageing nursing workforce, and finally held as problematic the need for informed decisions about the future of the NHS nursing workforce. The Centre for Workforce Intelligence (2011) reported on the risks and opportunities for the nursing and midwifery workforce. Specifically for learning disability nursing they reported a 30% reduction in head count since 2000, although they identify that this may '*not be as severe as it appears'* as nurses may have transferred to social providers of care, although the significance if this assertion is not explained. As with the previous RCN report it was acknowledged that there was a net outflow of nurses from the UK. This report also rehearsed the ageing population of nurses, and pointed to particular challenges for learning disability nursing and mental health nursing where Mental Health Office Status could enable a large section of experienced nurses to retire immediately. The report pointed, to there being little data on the specialist nursing workforce. In particular they point to an absence of data on learning disability nurses, which in their view restricted the validity of any potential recommendations for this area. Thus in the summary they simply state *'lack of accurate, granular data, particularly on the learning disability and higher specialist workforce, makes shortage in nurses difficult to quantify'.* Buchan and Seccombe in (2011) presented eight scenarios concerning the future workforce of nursing and midwifery. And once again the vulnerability of the size of the NHS workforce in relation to on-going changes to policy was articulated.

The Centre for Workforce Intelligence undertook a strategic review of the learning disability nursing workforce; they claimed that 35% of these nurses work in the NHS; that the supply of these nurses has decreased since 2006; that the commissioning of

these nurses has reduced since 2002/3. Although illuminating it should be noted that its conclusions are equivocal, and simply rehearses much of what had already been said, and what was already known (CfWFI, 2012). Another recent paper by Glover and Emerson (2012) agreed with and predicted a shortfall in this part of the nursing workforce (Gates, 2010); interestingly the CfWI did not corroborate this. Work was, until recently, being undertaken by the Universities of Hertfordshire and Hull to further study education commissions in the UK, and data bases have been established to record the numbers of education commissions, and attrition in order to better predict the potential future learning disability nursing workforce; simultaneously data are being interrogated from the Nursing and Midwifery Council, UK to establish on-going trends for this group of registrants. Despite learning disability nursing being part of the wider family of nursing its exclusion, in consideration of safer staffing levels, is disappointing, especially as some of the reports dealing with this have emanated from the Royal College of Nursing for the UK (see for example, Guidance on safe nurse staffing levels in the UK, (RCN, 2010a), and Mandatory Nurse Staffing Levels, (RCN, 2012).

More recently, and central to the imperative to achieve safer staffing levels for nursing, along with the capacity to deliver compassionate nursing care, was the Francis Report (2013). This Report has, amongst many other things identified;

'poor leadership and staffing policies, [and that] a completely inadequate standard of nursing was offered on some wards in Stafford. The complaints heard at both the first inquiry and this one testified not only to inadequate staffing levels, but poor leadership, recruitment and training. This led in turn to a declining professionalism and a tolerance of poor standards. Staff did report many incidents, which occurred because of short staffing, exhibited poor morale in their responses to staff surveys, and received only ineffective representation of concerns from the RCN.'

Subsequently the RCN, specifically the RCN learning disability forum have been proactive in this respect by developing learning disability nursing in the United Kingdom, and establishing an RCN position statement on the role of the learning disability nurse (RCN,2011; 2014). Nonetheless similar concerns regarding inadequate staffing, leadership, training, and recruitment were found in the serious case review into Winterbourne. This review followed the appalling lack of care, and abuse inflicted on people with learning disabilities (Flynn, 2012). Principally the report found there *'was no overall leadership amongst commissioners'*, who continued to place individuals at this facility regardless of service failures and the concerns of relatives and that the volume of safeguarding referrals *'were not treated as a body of significant concerns'*; and that patients had limited access to advocacy services. And of central relevance to this review was the apparent exclusivity of learning disability nursing and psychiatry as the only disciplines employed in *'multi-disciplinary' teams*. The report identified that the structure of the service and staffing relied heavily on support workers. Concern was noted that were no occupational therapists were employed, and this has relevance and will be returned to in the discussion and conclusion sections. Also noted were high staff turnover and high sickness rates among staff. Long 12 hour shifts were routinely worked, and there was lack of detail regarding day time activities, and timetables for those who lived at Winterbourne View.

Whereas not specifically addressing people with learning disabilities and, or, safe numbers of staff the recently published report from the PANICOA initiative has direct relevance to this review.[1] This was a joint research initiative between Comic Relief and the Department of Health. The final report presents the eleven studies that were commissioned under this initiative, between 2009 and 2013 (Lupton and Croft - White, 2013). The focus of this research initiative included; care homes, hospitals; as well as care staff and older people, relatives and visitors). Also scrutinised were the operation of care provider organisations, both *internally and in the context of the wider 'institutional care community''*. The evidence base is reported as extensive, drawing on, as it does, over 2,600 hours of observation and just approximately 500 individual or group interviews in 32 acute hospital wards and 42 care homes. The studies involved a range of different types of care provider and geographical locations across the UK, although largely in England and Wales. Overall, the evidence is based upon the experiences of older hospital patients, and care home residents, and the views of frontline staff and middle managers, rather than more senior staff. Their findings are extensive, and for the purposes of this report we identify only the conclusions, full reading of the final report is advised.[2] They concluded, in relation to care service a need to identify and prevent harm resulting from on-going *'systemic'* forms of neglect that included delays and omissions of care, as well as risks created by unsafe or inappropriate physical environments. They also advocate a need to improve the performance for providing privacy and ensuring dignity in all areas of personal care, most especially in toileting. Also needed was the prevention of ageist attitudes in hospitals, which they argue must become sensitive to the needs of older people. They identified a need for regular and detailed feedback from patients, and their relatives, on all aspects of care experienced. Finally, and this relates to those specifically in care homes finding ways to maintain the social and community engagement of residents. Concerning the culture of care the nature of an organisation's culture emerged as a strong determinant of the quality of the care experience, for staff and patients or residents. They observed that patients were more likely to be treated with respect and dignity by staff that who were treated in the same way by colleagues and organisations. Concerning working relations between key stake holders they noted that;

'Despite the strong common purpose that existed between these different 'stakeholders' and the shared challenges they faced, there was very limited collective work to support or strengthen core parts of the system (such as care staff) or areas of activity, such as safeguarding data)'.

This leads the authors to conclude the importance of need for a common purpose across the care community, that encourages collective investment of time or resource where this likely to deliver clear 'value-added' for all stakeholders.

The main Report concludes with recommendations, namely to;

• *develop[ing] the capability, and increasing the stability, of the health and care workforce, particularly frontline staff and ward/home managers;*

[1] PANICOA - Prevention of abuse and neglect in the institutional care of older adults

[2] Lupton, C and Croft - White, C (2013) Respect and protect the experience of older people and staff in care homes and hospitals. The PANICOA Report. London. Comic Relief. http://www.panicoa.org.uk/sites/assets/Final_Main_PANICOA_Report_web.pdf

• *stimulate[ing] and supporting the cross fertilisation of ideas and innovation across (and within) health and care home sectors, especially on good safeguarding practice;*
• *establish[ing] a stronger 'connectivity' of systems, standards and information (especially in respect of data sources) across the institutional care community, particularly between regulators, commissioners and safeguarding bodies.*

There is much to be commended in the methodological approaches used, and the subsequent findings, conclusions and recommendations from these studies. We believe that collectively they resonate strongly with the main body and our findings and analysis of the systematic review of literature, which is to follow, concerning the delivery of safe and compassionate learning disability nursing care. Finally, work undertaken at the University of Hull, White and Marsland (2012), has pointed to the importance of identifying early indicators of concern in residential and nursing homes for older people, but this work fails to articulate how these indicators might be prevented by addressing the context in which care and support staff work.

An area of significant risk for the safety of people with learning disabilities is when they are admitted to an acute general hospital. In an important recent Report by Tuffrey - Wijne, *et al.* (2013) they have identified strategies that might be employed to promote a safer environment for patients with learning disabilities whilst in NHS hospitals, because of their vulnerability. One of strategies included the employment of learning disability liaison nurses (LDLN); something Mencap have advocated for some time, and which been the subject of a recent service evaluation (Castles, *et al.* 2014). However, it should be noted that this vulnerability has been unequivocally established before, and for some time (Heslop *et al*. 2013; Mencap 2012; Michael 2008; Mencap 2007). Also known is that this vulnerability is of particular relevance and concern for those with profound learning disabilities and complex needs (Garrard, 2010).

In response to these continuing, and now very public concerns about nursing, a new nursing strategy was launched late 2012 that set out the purpose of nurses, midwives and care staff in delivering high quality, compassionate care, and their role to achieve excellent health and well-being outcomes (DH, 2012). As part of the implementation of the national 'Compassion into Practice (2012) Programme, further work is now underway specifically for task area 5; *'ensuring we have the right staff with the right skills in the right place: learning disabilities'*. Concerning the 'right numbers', a number of methods are commonly used in estimating the numbers of nurses, and the skill mix required to staff a ward and or unit, and these include; professional judgement, nurses per occupied bed, acuity-quality, timed-task / activity and regression (Hurst, 2010). More recently it has become increasingly apparent that;

'There has been much debate regarding the need to go beyond the numbers to determine 'safe' staffing levels.' (NHS England, 2014, pp 7- 9)

However, within the learning disability context even determining workforce requirements for settings where learning disability nurses work is problematic, partly because of the disparate nature of where they work, and this issue should not be glossed over. The multiplicity of practice contexts for learning disability nursing makes the adoption of any one staffing tool problematic. It is difficult to envisage, for example, how a staffing tool could be developed that would have simultaneous utility for; community learning disability nurses, those working in the private, voluntary and, or, independent sectors, liaison nurses working in acute general and mental hospital settings, nurses working in

day services or hospices, or those working in the criminal justice system. All of the former are legitimate areas of nursing practice for this field of nursing. Notwithstanding, work is now underway to pilot a mental health/learning disability tool, as well as the ward multipliers AUKUH system for inpatient NHS settings for patients with learning disabilities (NHS, England, 2013). These two tools are based on methods of acuity-quality, timed-task / activity, professional judgement for the mental health/learning disability tool, and acuity-quality, professional judgement ward multipliers AUKUH system. The next section moves on to outline the range of literature reviewed, key words comprising the 'string' for searches, the search strategy itself, how material was assessed, and how data were extracted and synthesised into a narrative as findings, before finally offering a discussion and conclusion to this report

Types of Studies

The review has included; editorials, commentaries, practical and theoretical papers; indeed all published papers in the public domain. In particular qualitative, quantitative, and multiple methods studies, as well as theoretical papers, based on empirical work, were reviewed.

Types of phenomena of Interest

This review included the terms learning disability nursing, staffing levels, safety, quality, compassion, communication, stress, staffing tools, violence, restraint, community nurse, staffing tools, caseload, case management, crisis intervention, community outreach, primary care, school nursing and health facilitator.

Search Strategy for identification of studies

This search strategy aimed to locate published studies, and papers of relevance to the overall objective. The parameters of the search were limited to English language reports. And a three-step search strategy has been used in each component of this review. An initial limited search of MEDLINE and CINAHL was undertaken, followed by analysis of the text words contained in the title and abstract, and of the index terms used to describe the article. A second search used all identified keywords and index terms were undertaken. Thirdly, the reference list of all identified reports and articles were searched for additional studies.

Databases that have been used have included; CINAHL Medline, PsychArticles, ScienceDirect, Google Scholar, Academic Search Elite. The search for unpublished studies has also included; Index to Theses [UK only]; ETHOS; Theses.com and Dissertations Abstracts.

Further parameters included a limitation to studies undertaken and published prior to commencement of this review [2013], but no earlier than 1993. We set a time parameter of 20 years as we believe studies earlier than this would be unlikely to be pursuing empirical scrutiny as to safe staffing levels; this is because the decline in learning disability nurses numbers is a relatively contemporary phenomenon (CfWFI, 2012). The search terms identified for group A *'learning disability nursing / staffing*

levels were combined with those in group B s*afety/ quality/compassion/communication/ stress/ staffing tools/violence/ restraint / stress / burnout / work overload / exhaustion*.

Assessment of Methodological Quality

Papers selected for retrieval have been assessed by the two reviewers undertaking this systematic review for methodological validity, and relevance to the overall objective of this proposal, prior to inclusion in the final review, using the standardised critical appraisal instruments from the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI). Any disagreements that arose between the reviewers were resolved through discussion with a review panel comprising members of the Learning Disabilities Task and Finish Sub Group.

Data Extraction

JBI data extraction tools have been modified but are based on the Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) [See Appendix 1], and used to extract qualitative and quantitative data; the two reviewers undertook this independently. Where studies themselves have not provided sufficient information to make a judgment contact was made by e-mail or telephone with the authors where ever possible.

Data Synthesis

This review anticipated paucity of work undertaken in this area, and that data and material retrieved would be heterogeneous, as well as disparate in nature. Therefore we proposed the employment a 'descriptive' meta-analysis method, using Joanna Briggs Institute Meta-Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI). Notwithstanding this prediction, we were committed to investigate the possibility of conducting more formal meta-analysis techniques on data if a subset of data appeared amenable. In any such case this eventuality has not occurred, and thus we conclude using only a narrative synthesis.

Findings

We retrieved 73 papers. Of these we excluded 12 papers after initial appraisal. 3 papers were untraceable and, 5 papers were concerned with instrument development. 3 were reviews of literature that included papers in this review. 1 paper was excluded because it focussed on general issues of disability, and a further because it focused on support workers. 7 papers were excluded because they were not original studies, and 7 focused on service development. One paper was excluded because it focused on physical disability, and a further 1 paper was excluded because it focused on the work of support workers. Finally, 4 were excluded because they focussed on staffing issues not relevant to nursing practice. In total 30 papers were included in this review of literature.

Findings from this systematic review have been grouped into eight themes, that includes; level of client need; staff attributes; staff perception of challenging behaviour; job satisfaction; working as a team; stress, burnout and work overload; and finally organisational support including staff feedback and, working in the community.

Citations are presented chronologically from the most recent to the oldest, and a standardised nomenclature is used for their reporting; name, year, scope of study, design, participants, scale/s of measurement, findings, and limitations. Where a citation falls into more than one theme then its subsequent use will only report on findings.

1 *Level of client need*

In a UK study Rose *et al.* (2013) has examined the relationship between staff psychological wellbeing, challenging behaviour and a therapeutic environment. Using a cross-sectional correlational design 78 'qualified' and 'unqualified' staff from NHS and private organizations (6 organizations) (14% of participants worked in secure units) (11.84% registered nurses). The Fear of Assault Scale, a Checklist of Challenging Behaviours, the Maslach Burnout Inventory - Human Services Survey (MBI-HSS), and a Modified version of Essen Climate Evaluation Schema were completed by participants. The study concluded the need to change the way staff perceived challenging behaviour in order to reduces stress levels. Limitations noted were that the study used a small sample, had a low response rate, and concluded that the survey instruments were too long. In a study in the Netherlands Knotter *et al.* (2013) have examined the relationship between staff's positive and negative attitudes towards aggression and their interventions in response to aggressive behaviour. Here data were collected on 121 direct care staff, from 20 teams working in a wide range of facilities for people with learning disabilities using a number of measures which were assigned as either independent or dependent variable. Using multilevel regression this study found that a more negative attitude towards aggression was associated with more frequent use of coercive measures. One limitation noted was the different dialogical definitions of '*aggression*' that may have been used by the participants.

Kozak *et al.* (2012) from Germany investigated the potential predictors of personal burnout among staff. This study investigated the association between personal burnout, and health and work-related outcomes. The study used an explorative cross-sectional survey. 409 staff (response rate 45%) (57 / 13.9% Registered Nurses) working in 30 residential facilities (29.6% had up to five years of professional experience) were given the Copenhagen Psychosocial Questionnaire (COPSOQ) and the Copenhagen Burnout Inventory to complete. Using logistical regression data were analysed indicating that burnout among staff was induced by emotionally charged client contacts. The authors noted that the cross-sectional design was insufficient for deriving causal relationships, and that the subjective nature of measurement of general well-being was problematic therefore, both should be seen as limitations of the study. In another study in the Netherlands Zijlmans *et al.* (2012) investigated the influence of type of challenging behaviour on attributions, emotions and interpersonal style of staff. Some 99 staff working in a wide range of facilities (mean experience of working with people with LD was 10.0 years) were using the Challenging Behaviour Attribution Scale, and the Emotional Reactions to Challenging Behaviour Scale and finally the Staff-Client Interactive Behaviour Inventory, data were analysed using a hierarchical regression, and mediation process. This study found that staff members working with clients who showed challenging behaviour aimed at the environment perceived it as more controllable, experienced more fearful and anxious emotions when dealing with CB and scored higher on the interpersonal styles 'control' and 'hostility'. Also found was that functional analysis was not conducted to assess the actual cause of CB of clients. Limitations noted were that training and coaching experiences of staff were not

investigated also that by using a cross-sectional study - emotions, beliefs and staff behaviour may change over time. Hensel *et al.* (2012) in Canada investigated the association between frequency and severity of exposure to client aggression and burnout found among community staff that supported adults with learning disabilities in Ontario. Using a cross-sectional survey 926 community staff (78% worked in residential or respite services; 11% worked in day centres, and 10% in supported independent living environments. 581 (63.8%) had specialized degree or training - degrees in direct care services work, personal support work or nursing) completed the Maslach Burnout Inventory - Human Services Survey (MBI-HSS). Using Pearson correlations it was found that there were positive associations between exposure to client aggression and burnout. Limitations noted included the use of a convenience sample of voluntary participants and that adopting a cross-sectional study meant that no causal link could be inferred.

A study in the USA by Gray-Stanley and Muramatsu (2011) has examined types of work stress related to direct care staff burnout, and how social and personal resources, such as work, social support and locus of control, contribute to lower burnout for staff caring for adults with learning disabilities. This study used a questionnaire survey for 323 participants (47% response rate) from five community-based organisations that provided residential, vocational, and personal care services for adults with intellectual and developmental disabilities. 97 (33%) of the staff had degrees, and (197) 67% had partial college/specialised training. Participants completed the Maslach Burnout Inventory Human Services Survey and other (work social support / locus of control / work stress). Data were subjected to multiple regression analysis, which identified that work stress; specifically work overload, limited participation in decision-making, and client disability care, was positively associated with burnout. In terms of limitations, and similar to other studies in this review, it was noted that as cross sectional data were used it was only possible to determine associations, rather than causation. In an Australian study Mutkins *et al.* (2011) have examined cross-sectional associations between client behaviour and staff burnout. This was undertaken using a questionnaire survey of 80 disability support staff in community based services. Here data were captured on staff. Their profile of qualifications included; trade certificate / diploma (44%, 35); university degree (41%, 33); higher school certificate or equivalent (12). (51%, 41) had specific learning disability support qualifications; (33%, 26) had other allied health qualifications (for example, nursing); (13) had no qualifications. Most of these staff had worked in the field for 5 -10 years (44%, 35), 1 - 5 years (26%, 21) or more than 10 years (26%, 21), with the remainder employed for less than 1 year (3). Using the MBI: Human Services Survey (MBI-HS, 3rd edition) / DASS-21 Survey of POS / Social Support Questionnaire data was analysed and findings included; client behaviour was not shown to be related to burnout, challenging client behaviour was not sufficient to induce significant stress or distress in staff. These possibly contradictory findings, when compared with earlier studies, may have been an artefact of the small sample used. This had implications for multiple analyses, and this may have led to a Type I error. There was also a low response rate, and the scale used to assess client behaviour variables was not well validated.

Earlier, Chung and Harding (2009) in the UK have investigated the impact of personality traits on burnout and psychological wellbeing among care staff working with people with intellectual disabilities and challenging behaviour. Using a cross-sectional questionnaire 103 staff from 13 residential community homes (69% response rate) were surveyed; 20% were qualified nurses. The average length of time working in LD

services was 8 years completed a number of measures. These included the Aberrant Behaviour Checklist (ABC) / Maslach Burnout Inventory (MBI) / General Health Questionnaire-28 (GHQ-28) / NEO-Five Factor Inventory (NEO-FFI). Data were analysed using descriptive and hierarchical multiple regression tests. They found that staff perception of challenging behaviour predicted burnout. However challenging behaviour from the perspective of individual staff did not encapsulate the range of challenging behaviours that any individual members of staff would have confronted. There were no data on the extent to which the staff themselves had been injured or assaulted physically or verbally from their clients with challenging behaviour. Howard *et al.* (2009) from the UK explored the relationship between levels of violence, with fear of violence, self-efficacy, staff support and burnout. Using a questionnaire survey on 82 (44 care staff in a medium-secure setting with a high incidence of violence, and 38 care staff in community settings with a low incidence of violence). They were supplied with the Maslach Burnout Inventory, the Staff Support and Satisfaction Questionnaire (Version 2), the Difficult Behaviour Self-efficacy Scale, Fear of violence measure and Actual Level of Violence Measure 1. The study does not make clear how the data were analysed. Notwithstanding it was found that increased burnout was significantly correlated with increased perceived exposure to physical violence and reduced staff support. The limitations noted included that the retrospective design did not permit claims of causality and that the measures relied largely on self-report and therefore may be unreliable, particularly in the case of fear of violence, which may be subject to social bias.

Somewhat earlier Felce and Perry (2004) in the UK have explored associations between age and size of setting and staffing per resident. The study was based on informant interviews from 51 settings that were randomly selected (85% response rate). Data on resident ages, gender, adaptive behaviour, physical and sensory disabilities, social impairment and challenging behaviour, number of working hours of staff, staff, resident ratios, support levels, and resident activity was collected. Instruments used included completion of the ABS Part One (Community and Residential Version), the Aberrant Behaviour Checklist, the Disability Assessment Schedule / Residential Services Working Practices Scale. This study found that the age of residents was associated with larger residences, and that fewer staff hours were spent with each resident.

Mitchell and Hastings (2001) from the UK explored staff coping, emotional reactions to challenging behaviour, and burnout in community-based services. Using a questionnaire survey 83 care staff members from 23 community residences encompassed within five service organizations (statutory and private/voluntary organizations) (33.5% response rate). 27% were learning disability nurses. Instruments included the Emotional Reactions to Aggressive Challenging Behaviour Scale, the COPE inventory and the Maslach Burnout Inventory. Adopting analysis through regression analyses the authors concluded that staff disengagement and adaptive coping strategies, and their emotional reactions to aggressive behaviour predicted burnout. Limitations to this study include the measure of emotional reactions to challenging behaviour used in was explicitly developed for the purpose - subsequently its validity needs to be held as problematic, and there was a low response rate.

Perry *et al.* (2000) in the UK studied data held on 88 (15%) settings were randomly selected from 585 settings providing services for people with learning disabilities. Data on size, homeliness and physical integration of settings, organisational culture, working

methods, staffing levels and resident characteristics, were all collected using a stratified random sample of provision in South-West England and Wales. The contracting officer in each county/authority was asked for information about all staffed houses serving six or fewer people with learning disabilities. Interviews were conducted with direct carers. Using the Adaptive Behaviour Scale (part one) (ABS), the Aberrant Behaviour Checklist (ABC), the Psychiatric Assessment Schedule for Adults with a Developmental Disability (PASADD) checklist, the Disability Assessment Schedule (DAS), the Characteristics of the Physical Environment Scale (CPE), the Physical Integration ratings from Program / Analysis of Service Systems 3 (PASS 3), the Working Methods Scale (Revised) (WMS) and the Group Home Management Schedule (GHMS) each resident had data collected on them by a carer who knew them well. This study found that resident ability correlated with staffing levels, and organizational culture, but not with staff working methods. Provider agencies did not differ significantly on three of the four variables relating to residents' characteristics, and that finally correlation between staff hours and ability was not significant within health and local authority settings, and privately operated settings.

Chung and Corbett (1998) in the UK have compared burnout of staff between an institutional setting that was hospital-based bungalows and a community unit. These researchers investigated the association between staff burnout and clients' challenging behaviour with autistic features. Adopting a questionnaire survey (pilot study) 38; (26 residents and 12 nursing staff) were subjected to data measurement. Staff used the Aberrant Behaviour Checklist (ABC) on the residents and they were later interviewed suing the Maslach Burnout Inventory (MBI). The authors found that clients' challenging behaviour was not associated with burnout. Various management issues appeared to be more important which confirmed previous findings in the research literature. Limitations included a small sample size and it was noted that the clinical characteristics of the clients in the two settings were different.

Again in the UK Felce and Perry (1995) began to investigate the relationship between staffing levels, resident characteristics, and staff: resident interactions using a questionnaire survey on staff from on 5 residential homes in South Wales. They used the Adaptive Behaviour Scale Part One (ABS), the Social and Physical Incapacity and Speech, Self-Help and Literacy Scales and, the Disability Assessment Schedule. Their study seems to suggest that the extent of staff: resident interaction was related to resident characteristics. Also that the level of staff support given to residents with more substantial disabilities, was slightly higher than that given to more able residents, and that this was reflected in higher staffing input. Resident engagement in activity was strongly related to ability, and participation in household activity was virtually non-existent among residents.

2 *Staff attributes*

The Knotter *et al.* (2013) study from the Netherlands has examined the relationship between staff's positive and negative attitudes towards aggression, and their interventions in response to aggressive behaviour. It was found that a more negative attitude towards aggression was associated with the more frequent use of coercive measures by those staff. And further that the characteristics of individual staff members related to their behavioural interventions were their working experience and age.

Similarly previously reported the Zijlmans *et al.* (2012) study again from the Netherlands investigated the influence of type of challenging behaviour on attributions, emotions and interpersonal style of staff found that the type of Challenging Behaviour was related significantly to the staff variables (gender / work experience / contract). Also that staff working with clients who showed challenging behaviour aimed at the environment perceived this as more controllable. Also as previously reported the Kozak *et al.* (2012) study from Germany, that investigated the potential predictors of personal burnout among staff, found that higher levels of personal burnout were significantly correlated with higher rates of intention to leave the job and cognitive stress symptoms. Also that low values of personal burnout were associated with greater job satisfaction, good general health, and higher satisfaction with life. It was found that there was a significant association between burnout and age groups, professional experience, and alternating shifts. A point perhaps worthy of note was that female workers had a significantly higher level of burnout than their male counterparts. They found a link between the length of professional experience and personal burnout. There was a significant association between personal burnout and perceived stress due to client aggression.

Kowalski *et al.* (2010) in Germany (noted earlier) found that age, years of professional experience, and job tenure did not have a significant impact on staff burnout. The authors point out that cross sectional design does not allow causal inferences to be made. Lernihan and Sweeney (2010) in Ireland investigated whether staff, caring for people with intellectual disabilities and communication difficulties, experienced burnout. Using a cross-sectional descriptive design 100 direct care workers were interviewed about their experiences. Staff included nurses, healthcare assistants, counsellors, psychologists, teachers, and social care and catering staff, working on a given day. The study used a non-probability sample. Instrumentation included the use *of the* Maslach Burnout inventory - Human Services Survey. Analysis was undertaken using bivariate, non-parametric descriptive and inferential statistical tests. They found circa 30 per cent of direct care workers experienced moderate to high levels of emotional exhaustion, most had not reached a high level of depersonalisation and that more than two thirds felt high levels of personal achievement. It was found that experience; current qualifications and training specific to communication had no significant relationship to any of the variables. They report a small sample size, convenience sample and a restricted range of data variables as limiting factors of their study.

Already reported was the study by Howard *et al.* (2009) in the UK. In this study medium - secure staff reported significantly lower fear of violence and higher self-efficacy compared with community staff. It would seem that increased burnout significantly correlated with increased perceived exposure to physical violence and reduced staff support. Also that self-efficacy was demonstrated to be a significant moderator of the relationship between the levels of violence and burnout. It was also found that higher threats of violence were significantly correlated with lower fear of violence. Seemingly services, which were organised to manage violence, may be better placed to support staff experiencing violence. Finally, they found that emotional exhaustion had a significant positive correlation with staff support.

Dennis and Leach (2007) from the UK examined the level of expressed emotion and burnout in staff caring for people with learning disabilities and psychosis detained under the MHA 83 on a medium secure unit. Interviews and a survey questionnaire were administered to 10 staff (6 Registered Nurses (RNs), and 4 health care support workers). Nursing care was delivered using a triumvirate nursing system. The nursing

team comprised 60% qualified RN, and 40% Health Care Support Workers; 54% of the RNs had a learning disability nursing qualification, 38% have a qualification in mental health and 8% held a dual qualification. Instruments included the Five Minute Speech Sample and Maslach Burnout Inventory. This study found that expressed emotion was higher in male staff and in Health Care Support Workers. They pointed to a small sample size limiting any generalizability. Also identifying that participants were self-selecting, which may have impacted on results; as more enthusiastic staff may have been more attracted to participate; the sample may therefore not be representative of the staff team.

Rose *et al.* (2004) in the UK have explored the association between negative emotional reactions to challenging behaviour and staff well-being. Adopting a questionnaire survey in study 1, 101 staff rated their typical emotional reactions to challenging behaviours experienced as a part of their work. In the second *study* 99 staff rated their negative emotional reactions to written challenging behaviour vignettes. Of the staff 67.3% had no formal qualifications, and they worked in social care settings. Instruments used included the Maslach Burnout Inventory (MBI), and the Emotional Reactions to Challenging Behaviour scale. Analysing data using Pearson Correlations they found significant positive correlations were found between negative emotional reactions to challenging behaviour and emotional exhaustion and depersonalisation. It should be noted that no significant correlations between length of experience and either burnout or emotional reactions.

Mitchell and Hastings (2001) from their UK study, already presented, explored staff coping, emotional reactions to challenging behaviour, and burnout in community-based services. They found staff disengagement and adaptive coping strategies and their emotional reactions to aggressive behaviour predicted burnout.

Finally, for the previously reported study by Perry *et al.* (2000) in the UK, it was found that there were significant differences between providers on the important variables of working methods and staffing levels. Resident ability correlated with staffing levels and organisational culture, but not with staff working methods.

3 *Staff perception of challenging behaviour*

This study by Rose *et al.* (2013) in the UK, found that changing the way staff perceive challenging behaviour reduces stress levels. Also the Knotter *et al.* (2013) study from the Netherlands again previously presented found that more experienced individual staff members provided more personal space and behavioural boundary setting in response to aggressive behaviour. This study also found that a more negative attitude towards aggression was associated with more frequent use of coercive measures. They also found that the characteristics of individual staff members related to their behavioural interventions were working experience and age and that highly experienced teams more frequently restricted the freedom of their clients than less experienced teams.

Zijlmans *et al*. (2012) from the Netherlands, already reported, found that medium-secure staff reported significantly lower fear of violence and higher self-efficacy compared with community staff. Increased burnout was significantly correlated with increased perceived exposure to physical violence and reduced staff support. Self-efficacy demonstrated a significant moderator relationship with levels of violence and burnout. Higher threats of violence were significantly correlated with lower fear of violence.

Finally the study by Mascha (2006) in the UK has explored levels of burnout amongst staff day services, self-reported sources of support as well as stress for the staff; levels of role clarity, job satisfaction, supervision and propensity to leave in relation to burnout levels and coping strategies used by staff in relation of burnout. Using a questionnaire survey with 36 direct-care staff from four day care centres (response rate 40.91%) using the Maslach Burnout Inventory, the Staff Support Questionnaire (SSQ), and the Shortened Ways of Coping Questionnaire (SWC-R) (Revised). They found that factors influencing staff morale were staff support and supervision, role clarity, wishful thinking, staff and other practical issues regarding the day-to-day running of the service.

4 *Job satisfaction*

The Kozak *et al.* (2012) study from Germany, already reported, suggest that higher levels of personal burnout were significantly correlated with higher rates of intention to leave the job and cognitive stress symptoms. And that low values of personal burnout were associated with greater job satisfaction, good general health, and higher satisfaction with life. Of note was that job insecurity had a significant impact on personal burnout.

Gray-Stanley and Muramatsu (2011) from the USA, already reported, found that work stress, specifically work overload, limited participation, decision-making, and client care, and were positively associated with burnout.

In the study by Lernihan and Sweeney (2010) from Ireland, already reported above, found that circa 30 per cent of direct care workers experienced moderate to high levels of emotional exhaustion, most had not reached a high level of depersonalisation, positively more than two thirds felt high levels of personal achievement.

Chung and Harding (2009) from the UK, as reported earlier, found a significant relationship between burnout (that isemotional exhaustion and personal accomplishment) and challenging behaviour. Challenging behaviour from the perspective of individual staff did not encapsulate the range of challenging behaviours that any individual members of staff would have confronted.

As previously reported Mascha (2006) in the UK which looked at levels of burnout amongst staff day services, self - reported sources of support as well as stress for the staff, levels of role clarity, job satisfaction, supervision and propensity to leave in relation to burnout levels, and coping strategies used by staff in relation of burnout, and finally. Where burnout levels were high and support to staff low then these staff had a high propensity to leave the service.

A study by Innstrand *et al.* (2004) from Norway evaluated possible changes in stress, burnout, and job satisfaction after stress - reducing interventions were applied to an experimental group. Using a longitudinal quasi-experiment mean differences of stress, burnout, and job satisfaction following different interventions were applied to one group of staff (n = 79), with one group as control group (n = 33). All staff worked in community residential care services. Instruments included the use of the Maslach Burnout Inventory - General Survey (MBI-GS) and data were subjected to covariate analysis. The reducing interventions experimental group demonstrated a strong and significant rise in job satisfaction. Problematic to the study design was that the treatment and

control groups were aware of the interventions resulting in resentful demoralization of the control group.

In the study by Hatton *et al.* (1999) from the UK where factors most strongly associated with general distress, job strain and work satisfaction were investigated. They found six factors accounted for 50% of the variance in job strain scores; (1) wishful thinking, (2) stress linked to a lack of staff support, (3) alienative commitment, (4) role ambiguity, (5) stressors linked to a low status job and (6) working longer contracted hours. Six factors accounted for 66% of the variance in work satisfaction scores: (1) stress linked to a low status job, (2) support from supervisors, (3) influence over work decisions, (4) alienative commitment, (5) support for colleagues, and (6) older staff age.

Finally, in the Chung and Corbett (1998) from the UK, again reported earlier, found that the hospital-based bungalow staff experienced high levels of burnout, that they were dissatisfied with many aspects of their work and that they were in need of help. Also the level of burnout in the community unit staff was low, and they felt generally more satisfied than did the bungalow staff.

5 *Working as a team*

In the Knotter *et al.* (2013) study that was undertaken in the Netherlands that was reported earlier found that it was 'the team' that had an important role in the determination of the type of behavioural intervention and that highly experienced teams more frequently restricted the freedom of their clients than did less experienced teams.

In the study by Dennis and Leach (2007) from the UK reported above found evidence of high expressed emotion, and some elements of high burnout within the staff team. This pointed to the importance of staff support strategies, training and supervision which were concluded to be essential.

6 *Stress, burnout and work overload*

In this theme; stress, burnout and work overload are all considered. Firstly, in the study by Kozak *et al.* (2012) from Germany, which has featured in all previous themes above, female workers were found to have had a significantly higher level of burnout than their male counterparts. Also there was a link between the length of professional experience and personal burnout. There was evidence of a significant association between personal burnout and perceived stress due to client aggression. This study reported that burnout among staff is induced by emotionally charged client contacts. And finally that staff that reported that they were highly stressed from the aggression of clients more often showed a higher risk of personal burnout.

In the Canadian study by Hensel *et al.* (2012), a positive association between exposure to client aggression and burnout was observed.

Also in earlier work Gray-Stanley and Muramatsu (2011) in the USA reported earlier, examined types of work stress related to direct care staff burnout, and how social and personal resources, such as work social support and locus of control, contributed to lower burnout for staff caring for adults with learning disabilities found that work stress,

specifically work overload, limited participation decision - making, and client disability care, were all positively associated with burnout.

The Australian study by Mutkins *et al.* (2011) found that low organisational support was frequently concurrent with burnout symptoms. As in other studies it is claimed that personal and organisational supports may have militated against the potential for emotional exhaustion. Interestingly and contradicting other studies client behaviour was not shown to be related to burnout. Furthermore, challenging client behaviour was not sufficient to induce significant stress or distress in staff.

The German study by Kowalski *et al.* (2010) found that organisational factors had a prominent role in the development of burnout. Their findings suggest a relationship between workload and latitude in decision-making, gender, and emotional exhaustion in professionals working with people with disabilities. Lernihan and Sweeney (2010) from Ireland reported that circa 30 per cent of direct care workers experienced moderate to high levels of emotional exhaustion, most had not reached a high level of depersonalisation and more than two thirds felt high levels of personal achievement.

In the Chung and Harding (2009) study from the UK, reported above, reported that staff perception of challenging behaviour predicted burnout. This study also reported that there was a significant relationship between burnout (i.e. emotional exhaustion and personal accomplishment) and challenging behaviour. No significant relationship was found between psychological well-being and challenging behaviour.

In the Dennis and Leach (2007) UK study detailed earlier, there was evidence of high expressed emotion and some elements of high burnout within the staff team. There was a significant relationship between the level of high expressed emotion and the depersonalisation element of burnout.

Innstrand *et al.* (2004) in their study from Norway evaluated possible changes in stress, burnout, and job satisfaction after stress-reducing interventions were applied to an experimental group found a significant reduction in stress and exhaustion. Rose *et al.* (2004) in the UK study reported earlier found significant positive correlations between negative emotional reactions to challenging behaviour and emotional exhaustion and depersonalisation burnout. They claimed that negative emotional reactions were associated with burnout, but that no significant correlations between length of experience, and either burnout, or emotional reactions were found.

Mitchell and Hastings (2001) in the UK in the study reported earlier found that staff disengagement and adaptive coping strategies and their emotional reactions to aggressive behaviour predicted burnout.

Finally the Chung and Corbett (1998) study from the UK reported earlier found that the hospital - based bungalow staff experienced high levels of burnout, that they were dissatisfied with many aspects of their work and that they were in need of help. The level of burnout in the community unit staff was low, and they felt generally more satisfied than did the bungalow staff. Clients' challenging behaviour was not associated with burnout. Various management issues appeared to be more important which confirmed the previous findings mentioned in the literature.

7 *Organisational support including staff feedback*

This penultimate section presents aspects from the studies used in this review of literature that are directly related to the importance of organisational support and this includes the importance of staff feedback. Rose *et al.* (2013) from the UK have found that changing the way staff perceived challenging behaviour reduced stress levels.

And that Kozak *et al.* (2012) from Germany, previously discussed, have concluded that organisational variables were the most reliable predictors of burnout. They advocated constant performance feedback as a way of reducing the risk of personal burnout.

Gray-Stanley and Muramatsu (2011) from the USA, and as already detailed, found that work stress, specifically work overload, limited participation decision-making, and client disability care, and was positively associated with burnout. Mutkins *et al.* (2011), in an Australian study that examined cross-sectional associations between client behaviour and staff burnout, found that low organisational support was frequently concurrent with burnout symptoms. Importantly they note that personal and organisational support may have militated against the potential for emotional exhaustion.

From Germany, Kowalski *et al.* (2010) in the study detailed earlier concluded that organisational factors had a prominent role in the development of burnout.

Howard *et al* (2009) from the UK, as detailed earlier found that services, which are organised to manage violence, may be better placed to support staff experiencing violence. They also reported that emotional exhaustion had a significant positive correlation with staff support.

In the UK Mascha (2006), previously identified, found that factors influencing staff morale were staff support and supervision, role clarity, wishful thinking, as well as staff and other practical issues regarding the day - to - day running of the service.

In a study by Perry *et al.* published in 2000 from the UK significant differences were found between providers of services on the important variables of working methods and staffing levels. Importantly resident ability correlated with staffing levels and organisational culture, but not with staff working methods.

Finally in the UK Hatton *et al.* (1999) found six factors accounted for 50% of the variance in job strain scores and these included; stress linked to a lack of staff support, alienative commitment, role ambiguity, stressors linked to a low status job and working longer than contracted hours. In addition the study reported that six factors accounted for 66% of the variance in work satisfaction scores and included; support from supervisors, influence over work decisions, and support from colleagues.

8 *Working in community*

This section presents aspects from the studies used in this review of literature that are directly related to the significance of working in the community in relation to the delivery of safe and compassionate care for people with learning disabilities. In the UK, Mafuba and Gates (2014) have reported the findings of a study that explored, and explained the contribution made by community learning disability nurses to the implementation of public health policies for people with learning disabilities. This study used a 9-item

online questionnaire to survey a non-proportionally quota sample of 171 community learning disability nurses (band 5 (*n* = 19); band 6 (*n* = 67); band 7 (*n* = 59); band (*n* = 26). The authors concluded that lack of role clarity was a significant factor impacting on how community learning disability nurses undertook their roles in meeting the public health needs of people with learning disabilities. In addition, continuous changes to the public health role of community learning disability nurses also impacted on their public health role clarity. Furthermore, the study reported the significance of the complexity of the moderators of how community learning disability nurses enacted their public health roles.

Mafuba (2013) from the UK, has reported findings from a 3-stage sequential multiple methods study which aimed to explore, describe and explain how community learning disability nurses experienced and perceived their public health roles (the study by Mafuba And Gates (2014) reported above represent stage 3 of this study). Stage 1 of the study explored how public health policy was reflected, and articulated in community learning disability nurses' job descriptions, and or person specifications. This stage of the study reported significant lack of public health role clarity in the job descriptions and person specifications (*n* = 205) included in the study from across the UK. In Stage 2 of the study the researcher used a grounded theory approach involving learning disability nurse consultants from across the UK (*n* = 17). This stage of the study reported that lack of public health role clarity, and wide community learning disability nursing roles significantly impacted on how health policy was implemented for people with learning disabilities. Secondly, the study reported that continuous change to policy and public health roles, and other roles of community learning disability nurses significantly impacted on role clarity. In addition, demographic illiteracy of the population of people with learning disabilities was reported to impact on how community learning disability nurses undertook their public health roles in meeting the health, and healthcare needs of people with learning disabilities. Furthermore, the study concluded that specialist practice influenced how community learning disability nurses enacted their public health roles in meeting the health and healthcare needs of people with learning disabilities. Finally, this study reported that the moderators of how community learning disability nurses enacted their public health roles were complex, and that it was the complexity of this environment in which community learning disability nurses practiced in that impacted on their ability to effectively undertake their roles.

A study involving secondary data analysis from NHS workforce statistic observed patterns of decline in numbers of learning disability nurses employed by the English National Health Service by Glover and Emerson (2012). The study observed a 23% decline in the overall number of whole time equivalent learning disability nurses employed by the NHS of over the period 2008 to 2011. The study also observed reductions in the number of community learning disability nurses from 3, 500 to fewer than 2, 500 in the same period.

A study undertaken in the UK by Barr (2006) provided an overview of the changes in the caseload and working practices of community nurses (*n* = 40) for people with learning disabilities over an 11-year period. This study involved a postal survey of the total population of community learning disability nurses in Northern Ireland who provided information on 1559 people with learning disabilities on their caseloads. The study reported that community learning disability nurses who participated had less involvement in meeting the health and healthcare needs of children with learning disabilities. In addition, the role of community learning disability nurses in Northern

Ireland focused on adults with learning disabilities who had physical or mental health needs. Also, the study reported that community learning disability nurses who took part in the study appeared to have a monitoring, rather than an active clinical role. Data from the study also observed a significant increase in caseload size in the 11-year period (26-65+, mean = 39). Finally it was also reported that 69.6% of people with learning disabilities on the caseloads were seen at least once per month, 24.15% were seen fortnightly, and 25.01% were visited monthly.

Hames and Carlson (2006) reported a study which was also undertaken in the UK. Their study examined primary health care team members' awareness of services which were provided by their local learning disability team. This study specifically focussed on whether primary health care teams used specialist learning disability professionals such as community learning disability nurses to identify the health care needs of people with learning disabilities. This study involved 152 postal survey questionnaires, and 44 were returned (response rate = 29%). The participants were GPs (43%), nurses (27%), health visitors (18%), physiotherapists (2%), dieticians (2%), counsellors (2%), and 5% of the participants were unidentifiable. This study found that 36% of respondents had some contact with the local learning disability team. 21% of the participants who had no contact with local learning disability team reported that they had no idea of the learning disability team's role. Furthermore, the study reported that 50% of the participants who had contact with the learning disability team recognized the team's role in assessment of the health and social care needs of people with learning disabilities. Also, this study reported low awareness of the community learning disability nurse, and their role in health facilitation and health promotion. The authors concluded that there was need to raise awareness of the role of community learning disability nurses among primary healthcare professionals.

In the UK, Slevin (2004) has reported on a study that aimed to identify the overall caseload sizes of community learning disability nurses. In addition, the study investigated the prevalence of people with learning disabilities who have challenging behaviours on the community learning disability nurses' caseloads, and what contact demands these people required and courses or training that helped the nurses to fulfil their roles. This study used a postal survey of community learning disability nurses (*n* = 44; 68% response rate) and 1985 caseloads (including 642 (32%) children) in Northern Ireland. The mean caseload size was 45 (range = 10 -165 (SD ¼ 30.96)). 28% of people with learning disabilities on the caseload were reported to have challenging behaviours (206 (32%) of children and 344 (26%) of adults. Of the 44 community learning disability nurses who participated in the study only two (4.5%) reported that they did not have people with learning disabilities of their caseloads with challenging behaviours. Of the 42 (95.5%) of the participants, the caseload mean of people with challenging behaviour was 12.5 and maximum was 44, and the standard deviation was 9.28. The reported frequency of contacts was monthly (28%), weekly (25%), and 2-weekly (20%). It was concluded that the numbers of community learning disability nurses needs to increase to allow a reduction in the caseload sizes of these nurses.

Holloway (2004) investigated the support available to community learning disability nurses in the UK to assist them in resolving ethical dilemmas they encountered in their practice. In addition, the study also investigated the participants' knowledge, and use of best interest's guidelines. Community learning disability services in England and Wales (*n* = 141) participated in the postal survey. Holloway (2004) had noted that the most commonly reported support was ethical committees who helped community learning

disability nurses in decision making involving dilemmas in relationships and lifestyle (79.5%), finance 75.0%), and policies and procedures to help with financial dilemmas (74.1%). In addition, the study also reported that for community learning disability nurses facing ethical dilemmas, helpful sources of support included talking to colleagues, group reflective practice, multidisciplinary team working, regular clinical supervision, support to and access to evidence, and training.

In the UK, Boarder (2002) used semi-structured interviews to investigate community learning disability nurses' (*n* = 20) perceptions of their work. This study reported that the caseload sizes of the participants ranged from 15 to 35. The study also found that the people on the caseloads had complex health and healthcare needs that included; multiple disabilities; mental health problems; epilepsy; general health difficulties; sexual problems; offenders; challenging behaviours; autistic spectrum disorders; older people with learning disabilities; and children with life limiting conditions. In addition, the researcher also observed a wide variation of role of the community learning disability nurses who participated in the study, describing them as '*jack of all trades'*. Furthermore, this study identified the need for greater clarity of role of community learning disability nurses. Finally , the study reported the need for the development of specialist community learning disability nursing roles.

Mobbs *et al.* (2002) undertook a study in the UK that described the way in which community learning disabilities nurses worked within NHS trusts in England. The study also explored the other professionals whom they relate to in the course of their duties, the people with learning disabilities whom they worked with, their professional qualifications and their working practices. This study used postal questionnaire survey of managers of community learning disability nurses as informants (*n* = 136; 81% response rate) from 136 NHS Trusts from across the UK. The study reported that 43% of the NHS trusts included in the study employed nurses specifically to work with people with challenging behaviour, 29 (27%) had nurses dedicated to child health, 25 (23%) had nurses specializing in epilepsy, 20 (20%) had nurses dedicated to forensic issues and 19 (18%) had nurses specializing in the mental health of people with learning disabilities. In addition, the study noted that raining was offered in; epilepsy (*n* = 126, 95%), challenging behaviour (*n* = 112, 88%), drug administration (*n* = 94, 82%), skills development (*n* = 91, 81%) and mental health (*n* = 85, 76%). Finally, 24 NHS trusts (18%) who participated in the survey had a learning disability nurse out-of-hours on-call service.

In the UK, Parahoo and Barr (1994) have investigated job satisfaction levels of community nurses who worked with people with learning disabilities. This questionnaire survey involved community learning disability nurses from Northern Ireland (*n* = 36; response rate = 72%). The authors reported that the mean caseload size for the 36 participants in the study was 42.7 and the range was 4 to 80. In the study the level of satisfaction was positively correlated with the participants' grades. The study also noted that community learning disability nurses who participated in the study that were aged 35-49 years reported lower levels of job satisfaction. Job satisfaction levels were also observed to decrease with increasing caseload size. Factors reported as contributing to levels of job satisfaction were multidisciplinary team working, direct involvement with people with learning disabilities, progress of people with learning disabilities on caseloads, varied aspects of work, autonomy, and appreciation of work by people with learning disabilities receiving support. Furthermore, the study noted that factors that contributed to levels of job dissatisfaction were heavy caseload,

administrative work, lack of resources, lack of communication, lack of recognition from other professionals, and lack of support from management.

Discussion

Whereas this systematic review has failed to locate any specific papers that have addressed safe nursing staff levels in learning disability services, numerous papers have been identified, based on empirical studies, that have sought to explore a range of factors that directly or indirectly impact on the delivery of safe and compassionate learning disability nursing care. These have been organised into eight themes that have included; level of client need, staff attributes, staff perception of challenging behaviour, job satisfaction, working as a team, stress, burnout and work overload, and organisational support that includes staff feedback, and finally working in the community. Importance as to the level of client need can be evidenced through the number of studies in this area; 13 papers from 1995 - 2013; accounting for some 42%[3] of the papers reviewed. It is the case that nearly all of this literature suggests that level of client need is of particular relevance to the potential in delivering safe and compassionate care for people with learning disabilities. For example, negative attitudes toward challenging behaviour and aggression are correlated with both the frequency and use of coercive measures with people with learning disabilities. Aggression and challenging behaviour in individuals with learning disabilities appear to be strongly correlated to staff exposure. Also, worryingly was that the level of disability only marginally predicted the level of support from staff. The attributes of age and experience were of importance too, for example, more experienced individuals have been found to provide more personal space and were better at setting boundaries. Younger staff more frequently restricted the freedom of clients than did the older more experienced staff, and were more likely to use coercive measures. Also of interest is that in at least one study female workers had significantly higher levels of burnout than their male counterparts, making gender an important issue to consider when considering issues of mix of staff. An issue not identified from our systematic review, but an issue worthy of note from the PANICOA study, concerns ethnicity. They report that *'The experience of ethnic minority staff needs specific attention, and acknowledgement should be made of the skills needed to work effectively in multicultural contexts'* (Lupton and Croft - White, 2013, 65). Furthermore, length of experience of staff also seems important, with those aged 30-39 being particularly vulnerable to personal burnout. In one study, training in communication neither experience nor qualification seemed to have any relationship with emotional exhaustion. Overall in this theme there were 10 papers from 2000 - 2013; accounting for some 32% of the papers reviewed.

Perhaps not surprisingly staff perception of challenging behaviour can be understood as a potentially important factor in predicting the delivery of safe and compassionate care. For example, in relation to negative attitudes held toward challenging behaviour and aggression was associated with more frequent use of coercive measures. And that generally negative perceptions of challenging behaviour and aggression were associated with more frequent us of coercive measures. This has clear implications for the importance of developing and maintaining positive attitudes amongst learning disability nurses and particularly those working in Assessment and Treatment services.

[3] This and subsequent percentages in this section are not cumulative they are a percentage of the total papers reviewed (*n* = 22).

In this theme there were 4 papers from 2006 - 2013; accounting for some 13% of the papers reviewed. Both the field of learning disability nursing practice and services that offer support to people with learning disabilities have changed beyond recognition in the last 20 years.

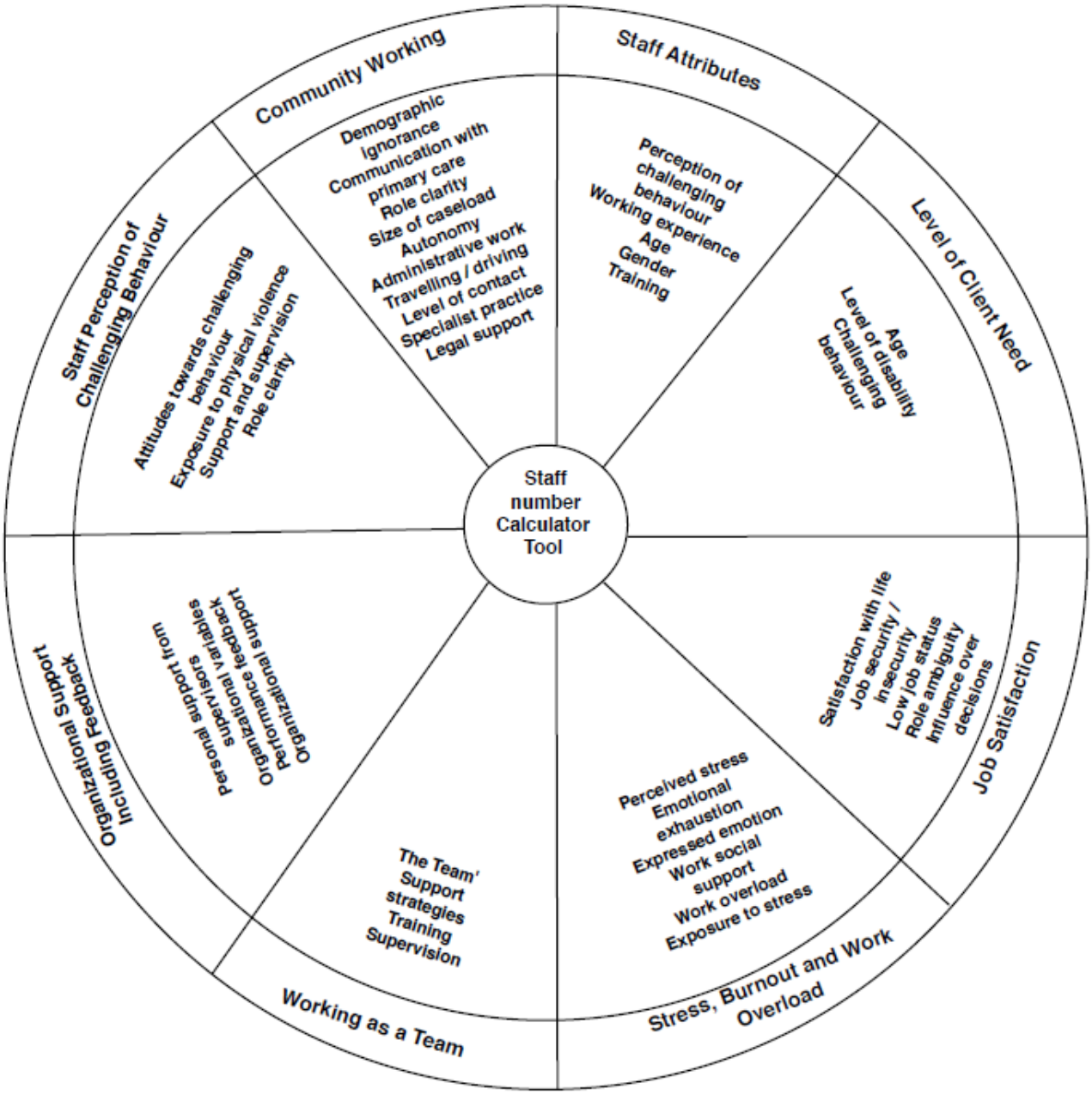

Figure 1: Factors directly or indirectly impacting on the delivery of safe and compassionate learning disability nursing care

There are now relatively few learning disability nurses left now working in the NHS, and the continuing decline shows no sign of halting. This should mean that this relatively scarce resource, in Human Resource terms, should be valued, and that these nurses should enjoy job satisfaction. Conversely in the studies reviewed here job security / insecurity, perceived low job status, role ambiguity and a feeling of little influence over decisions were evident. We believe that the point made by Gates (2001) some thirteen

years ago is still salient to this issue and that *'unless employers learn to value their staff, then it seems unlikely that their employees will value the people they care for'* (Gates, 2012, 206). Also of direct bearing to this observation is a similar one made more recently by Lupton and Croft - White (2013);

'the nature of an organisation's culture emerged as a strong determinant of the quality of the care experience, for staff and patients or residents. They observed that patients were more likely to be treated with respect and dignity by staff that who were treated in the same way by colleagues and organisations'

Overall in this theme there were 8 papers from 1998 - 2012; accounting for some 26% of the papers reviewed.

Working as a team appears to be an important meditator in potentially delivering safe and compassionate care. Although overall in this theme there are only 2 papers from 2007 - 2013; accounting for some 0.1% of the papers reviewed. The strength of the concept and importance of *'The Team'* make this an important theme. These papers point to the importance of not only developing the individual practitioner but also that of the team as a whole and in particular they point to the importance of training and supervision.

Organisations must remain cognisant of the importance and impact of stress, burnout and work overload in this group of nurses. In this review there were 11 papers from 1998 - 2012; accounting for some 35% of the papers reviewed, the second highest area of investigation. What is not known, perhaps, surprisingly, is the extent to which staffing levels contributed to stress, burnout and work overload. Only one paper from the USA specifically mentions work overload as a contributor. With some studies pointing to high levels of perceived stress and emotional exhaustion attention this area is of paramount importance. At least one experimental study found that stress-reducing interventions had a significant effect on staff in reducing stress. It would be interesting to see if the workforce routinely reports on their use. The importance of organisational, support including feedback cannot be underestimated which is clearly interrelated to the previous theme. The papers we have reviewed seem to indicate that the level of organisational support is a very reliable indicator of burnout. This must include performance feedback personal support from supervisors, through clinical and personal and professional supervision. However, it is clear in these studies, that whereas these should feature as routine in the management of service delivery, they do not. Overall in this theme there were 8 papers from 1999 - 2013; accounting for some 26% of the papers reviewed.

Working in the community appears to be an important factor in potentially delivering safe and compassionate care for people with learning disabilities who live in the community. Overall there were 10 papers in this theme, representing 32% of all the papers in this review. Boarder (2002) and more recently Mafuba (2013), and Mafuba and Gates (2013) have reported the concept of a '*jack of all trades'* and *'role diversity'* and their relationship to a lack of role clarity of nurses who work in the community, and often in professional isolation. It is suggested that regular reviews of community nursing roles and role specifications are needed to ensure role clarity that will in turn ensure the delivery of safe and compassionate care. Studies included in this review have also demonstrated that the size of caseloads needs to be reduced (Parahoo and Barr, 1994; Boarder, 2002; Slevin, 2004; Barr, 2006). Given the increasing population of people

with learning disabilities, the reduction in whole time equivalents of community learning disability nurses reported by Glover and Emerson (2012) is likely to result in increasing workloads. Given the evidence presented in these studies, we believe that reducing caseloads is important in order to ensure appropriate levels of contact or '*visiting patterns'* (Barr, 2006; Hames and Carlson, 2006) that are essential to the delivery of safe and compassionate care for those people with learning disabilities living in the community. We also concur with the conclusion of the need to increase the numbers of community learning disability nurses to allow a reduction in the caseload sizes of nurses that have been reported in these studies. It is also our considered conclusion that increasing the number of community learning disability nurses will result in improved demographic intelligence of the population of people with learning disabilities. The study by Hames and Carlson (2006) has highlighted the importance of communication between community learning disability services and primary care services. It is our view that as health services in the UK re-orientate towards preventative interventions, channels of communication need to develop, and become more formalised. Studies by Mobbs *et al.* (2002), Boarder (2002), Slevin (2004), Barr (2006) and Mafuba (2013), included in this literature review, have all demonstrated the contribution of specialist nursing practice in the community. Community learning disability nurses need to be supported to undertake specialist courses that make them more autonomous in their practice. We believe that specialist knowledge and skills are essential in the delivery of safe and compassionate care in the community where nurses often practice in geographical and professional isolation. Finally, organisations in which community learning disability nurses work need to be cognisant of the impact of administrative work, legal matters such as safeguarding, ethical decision making and travelling, which could impact on the delivery of safe and compassionate care for people with learning disabilities.

What is evidently clear from the literature discussed here is that we have no empirical work to draw on that provides us with causal relationships that will assist in determining safe staffing levels for learning disability nursing, or that can predict the delivery of safe and compassionate care. Notwithstanding, we do have numerous correlational studies that have consistently across; time, geography, care settings, and methodological approach demonstrated the relationship of some variables that should be seen as highly relevant to staffing levels, and the ability of these staff to deliver safe and compassionate care. So whereas the optimum number of staff present at any one time in a ward and, or, unit must be of critical importance to the delivery of safe and compassionate care, this as a contributor to learning disability nurses delivering safe and compassionate care for people with learning disabilities, will be necessary but not sufficient. We would propose, as evidenced by this review, that this is but one in a number of complex and interrelated factors likely to bring about safer staffing levels, and the concomitant requirement for the delivery of safe and compassionate care. It is the context of this nursing care, not only the numbers, which needs to be addressed. Simply increasing staffing levels on its own is unlikely to result in the delivery of safe and compassionate care. We believe these cumulative findings from these studies point to a number of important themes that should set a context for the delivery of safe and compassionate care, and that should inform the eventual tool chosen for setting staffing levels. We believe that this review of literature suggests to us that it would not be possible to deliver safe and compassionate care simply by addressing staffing levels through a work-loading tool. These themes are interrelated with one another and must therefore be seen as an essential adjunct to any potential staff work loading tool

adopted. As Lupton and Croft - White (2013) have pointed out in the final report from the PANICOA studies;
'there needs to be better management of workload and resource pressures with more opportunities to develop care skills and practice. Senior managers/owners need to recognise the pressures staff face on a daily basis, particularly those on the 'frontline', who face the very real risk of work related stress and 'burn-out'. Staff should be protected from verbal or physical aggression from patients/ residents and from disrespectful or demeaning treatment by colleagues. The experience of ethnic minority staff needs specific attention, and acknowledgement should be made of the skills needed to work effectively in multicultural contexts. The performance of all staff would be improved by the better internal flow of relevant information, from the top of the organisation to frontline workers and support staff (and vice versa). Frontline staff, such as health/care assistants, should more routinely be included in care teams and in care planning processes' (Lupton and Croft - White, 2013, 65)

And perhaps wisely in relation to staffing levels they have stated;

'In the absence of national standards on staffing levels, work with representatives of local providers to agree a practicable staff to patient ratio to ensure the safe and respectful care of older people at all times' (Lupton and Croft - White, 2013, 68).

We concur with this, and feel that in the absence of a known safe, and, or, agreed formula for staffing levels then these must be set by consensual professional, as well as commissioning opinion. However we feel this can only be promoted with the caveat that the factors we have identified are addressed concurrently.

Conclusion

We have undertaken a systematic review of literature, which has been conducted in a robust and transparent manner. We have identified a number of themes that we believe help make sense of the data we have extracted from the studies we have reviewed. We have also attempted to discuss the relevance of the findings we have highlighted from the papers reviewed to the delivery of safe and compassionate learning disability nursing care. This review, perhaps not surprisingly, leaves a number of questions unanswered. For example of critical importance is the need for an articulated agreement as to exactly what compassion and safe staffing means, and to whom. For example services will need to be able to articulate what staffing levels will mean for the patient and or their relatives. Safe levels of staffing must ensure this means more than simply keeping people safe, although essential; it must also be able to offer a therapeutic milieu. We also need to know to what extent learning disability nurses working in all settings agree with our interpretation of these findings. The parameters of any staffing tool must be clearly understood, and this is most likely in the first instance to be NHS, and NHS funded services; whether specialist and, or, generic. It may be that services have to avoid the temptation of seeking comfort in the belief that numbers alone will address short comings in services rather than for example looking at the capability of teams to be empowered to deliver safe and compassionate nursing care. And we know we have some evidence that the notion of addressing 'teams' rather than focusing on the individual may be of critical importance, as was found in the serious case review into Winterbourne. Finally, the area of skill mix needs to be addressed as well; this has not been accounted for at all in the literature we have reviewed. Yet the context of learning disability services is reliant upon interdisciplinary work. What for

example, will services need by way clinical psychology, occupational therapy, as was found in the serious case review into Winterbourne, physiotherapy, speech and language and therapy, as well as other support roles such as that of ward clerks.

We also conclude the need to undertake further work to validate the findings from the review of literature. This we propose should include; documentary analysis of all serious incidents in learning disability services and, or, clients that are directly or indirectly related to staffing issues in England/UK, a survey monkey of all learning disability nurses working in learning disability services to better understand how they believe safer staffing and the delivery of compassionate care can be achieved, and identify what barriers they believe compromise it. Additionally we advocate semi structured interviews with people with learning disabilities and, or, their families about what safe staffing might look like for them, as well as with '*key players'*, clinicians, and stakeholders on safe and compassionate staffing levels. Finally, we believe it would be helpful to construct a series of case histories of good practice in setting staffing levels, and if possible follow up beyond 'UK borders' regarding staffing levels and the compassionate delivery of care in learning disability services.

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References

Barr, O. (2006). The evolving role of community nurses for people with learning disabilities: changes over an 11-year period. *Journal of Clinical Nursing*, 15, pp.72-82.

Buchan, J Seccombe, I., (2011) *A decisive decade - mapping the future NHS workforce.* London. Royal College of Nursing.

Castles, A; Bailey, C; Gates, B; Sooben, R., (2013) Implementation of a Learning Disability Nursing Liaison Service within an acute hospital setting: A service evaluation. *British Journal of Learning Disabilities.*
http://onlinelibrary.wiley.com/doi/10.1111/bld.12070/abstract

Centre for Workforce Intelligence (2011) Nursing and Midwifery *Workforce risks and opportunities: A report too review the key workforce risks and opportunities within the nursing and midwifery workforces.* Surrey: Centre for Workforce Intelligence.

Centre for Workforce Intelligence (2012) *Workforce risks and opportunities. Learning disability nurse. Education and Commissioning Risks. Summary from 2012.* Surrey: Centre for Workforce Intelligence.

Centre for Workforce Intelligence (2013) A strategic review of the future health care workforce: Informing the nursing workforce. Surrey: Centre for Workforce Intelligence.

Chung, M.C. and Harding, C., (2009). Investigating burnout and psychological well-being of staff working with people with intellectual disabilities and challenging behaviour: the role of personality. *Journal of Applied Research in Intellectual Disabilities*, 22, pp.549–560.

Chung, M.C. and Corbett J., (1998). The burnout of nursing staff working with challenging behaviour clients in hospital-based bungalows and a community unit. *International Journal of Nursing Studies,* 35, pp.56-64.

Dennis, A. M. and Leach, C., (2007). Expressed emotion and burnout: the experience of staff caring for men with learning disability and psychosis in a medium secure setting. *Journal of Psychiatric and Mental Health Nursing*, 14, pp.267–276.

DH (2012) Compassion in Practice, Nursing, Midwifery and Care staff: Our Vision and Strategy. Leeds: DH.

Elizabeth Lernihan, E. and Sweeney, J., (2010). Measuring levels of burnout among care workers. *Learning Disability Practice,* 13(8), pp.27-33.

Felce, D. and Perry, J., (1995). The extent of support for ordinary living provided in staffed housing: The relationship between staffing levels, resident characteristics, staff:resident interactions and resident activity patterns. *Social Science and Medicine,* 40(6), pp.799-810.

Felce, D. and Perry, J. (2004) Resource input, service process and resident activity indicators in a Welsh National random sample of staffed housing services for people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, 17, pp.127-132.

Flynn, M., (2012) *Winterbourne View Hospital: A Serious Case Review.* Gloucester: Gloucestershire Safeguarding Adults Board.

Gates, B., (2001) Valuing People: Long awaited strategy for people with learning disabilities for the twenty-first century in England. *Journal of Intellectual Disabilities*. 5 (3), pp.203 - 207.

Gates, B., (2010) When a workforce strategy won't work: critique on current policy direction in England, UK. *Journal of Intellectual Disabilities,* 14 (4), pp.251 - 258.

Gates, B., (2011) *Learning Disability Nursing: Task and Finish Group: Report for the Professional and Advisory Board for Nursing and Midwifery - Department of Health, England.* Hatfield: Hertfordshire University.

Garrard, B. Lambe, L. Hogg, J., (2010) *Invasive procedures: Minimising risks and maximising rights. Improving practice in the delivery of invasive procedures for people with profound and multiple learning disabilties.* Dundee. PAMIS and White Top research unit.

Glover, Emerson, E., (2012) Patterns of decline in numbers of learning disability nurses employed by the English National Health Service. *Tizard Learning Disability Review,* 4(17), pp.194 - 198.

Gray-Stanley, J.A. and Muramatsu, N. (2011). Work stress, burnout, and social and personal resources among direct care workers. *Research in Developmental Disabilities*, 32, pp.1065–1074.

Hames, A. and Carlson, T. (2006). Are primary health care staff aware of the role of community learning disability teams in relation to health promotion and health facilitation? *British Journal of Learning Disabilities*, 34, pp.6-10.

Hatton, C., Emerson, E., Rivers, M., Mason, H., Mason, L., Swarbrick, R., Kiernan, C., Reeves, D. and Alborz, A. (1999). Factors associated with staff stress and work satisfaction in services for people with intellectual disability. *Journal of Intellectual Disability Research,* 43(4), pp. 253**-**267.

Hensel, J. M., Lunsky, Y., and Dewa, C.S. (2012). Exposure to client aggression and burnout among community staff who support adults with intellectual disabilities in Ontario, Canada. *Journal of Intellectual Disability Research*, 56(9), pp. 910**–**915, doi: 10.1111/j.1365-2788.2011.01493.x.

Heslop P., Blair P., Fleming P., Hoghton M., Marriott A. et al. (2013) *Confidential Inquiry into premature deaths of people with learning disabilities, final report.* Norah Fry Research Centre.

Holloway, D. (2004). Ethical dilemmas in community learning disabilities nursing: What helps nurses to resolve ethical dilemmas that result from choices made by people with learning disabilities. *Journal of Learning Disabilities*, 8(3), pp.283-298.

Howard, R., Rose, J. and Levenson, V. (2009).The psychological impact of violence on staff working with adults with intellectual disabilities. *Journal of Applied Research in*

Intellectual Disabilities, 22, pp.538–548.

Hurst, K (2010) Evaluating the strengths and weaknesses of NHS workforce planning methods. *Nursing Times.* 1106. (40). pp. 10 – 14.

Innstrand, S.T., Espnes, G.A. and Mykletun, R. (2004). Job stress, burnout and job satisfaction: An intervention study for staff working with people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities,* 17, pp.119-126.

Knotter, M.H., Wissink, I.B., Moonen, X.M.H., Stams, G.J.M. and Jansen, G.J. (2013). Staff's attitudes and reactions towards aggressive behavior of clients with intellectual disabilities: A multi-level study. *Research in Developmental Disabilities*, 34, pp.1397-1407.

Kowalski, C., Driller, E., Ernstmann, N., Alich, S., Karbach, U., Ommen, O., Schulz-Nieswandt, F. and Pfaff, H. (2010). Associations between emotional exhaustion, social capital, workload, and latitude in decision-making among professionals working with people with disabilities. *Research in Developmental Disabilities*, 31, pp.470 - 479.

Kozak, A., Kersten, M., Schillmoller, Z. and Nienhaus, A. (2013). Psychosocial work-related predictors and consequences of personal burnout among staff working with people with intellectual disabilities. *Research in Developmental Disabilities,* 34, pp.102 - 115.

Lupton, C and Croft - White, C (2013) *Respect and protect the experience of older people and staff in care homes and hospitals.* The PANICOA Report. London. Comic Relief.

Mafuba, K. and Gates, B. (2013). An investigation into the public health roles of community learning disability nurses. *British Journal Learning Disability*. DOI: 10.1111-bld.12071.

Mafuba, K. (2013). Public health: Community learning disability nurses' perception and experience of their role. Unpublished PhD Thesis, University of West London.

Mascha, K. (2006). Staff morale in day care centres for adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities,* 20, pp.191-199.

Mencap (2007) *Death by Indifference: following up the Treat me right! Report.* London, Mencap.

Mencap (2012) *Death by indifference: 74 deaths and counting, a progress report 5 years on.* London, Mencap.

Michael J. (2008) *Healthcare for All: Report of the independent inquiry into access to healthcare for people with learning disabilities.* London, HMSO.

Mitchell, G. (2001). Coping, burnout, and emotion in staff working in community services for people with challenging behaviours. *American Journal on Mental Retardation,* 106(5), pp.448 - 459.

Mobbs, C., Hadley, S., Wittering, R. and Bailey, N.M. (2002). An exploration of the role of the community nurse, learning disability, in England. *British Journal of Learning Disabilities*, 30, pp.13-18.

Mutkins, E., Brown, R. F. and Thorsteinsson, E. B. (2011). Stress, depression, workplace and social supports and burnout in intellectual disability support staff. *Journal of Intellectual Disability Research,* 55 (5) pp.500 - 510.

NHS, England (2013) How to ensure the right people, with the right skills, are in the right place at the right time: A guide to nursing, midwifery and care staffing capacity and capability. England. NHS.

NHS, England (2014) Safer Staffing: A guide to care contact time. England. NHS. pp. 7 - 9.

Parahoo, K. and Barr, O. (1994). Job satisfaction of community nurses working with people with mental handicap. *Journal of Advanced Nursing*, 20, pp.1046-1055.

Perry, J., Felce, D. and Jones, S. (2000). Characteristics of staffed community housing services for people with learning disabilities: a stratified random sample of statutory, voluntary and private agency provision. *Health and Social Care in the Community*, 8(5), pp.307 - 315.

Royal College of Nursing, UK (2010a) Guidance on safe nurse staffing levels in the UK. London. Royal College of Nursing.

Royal College of Nursing, UK (2010b) *Sustaining the long view: The UK nursing labour market review.* London. Royal College of Nursing.

Royal College of Nursing, UK (2011) *Learning from the past- setting out the future: developing learning disability nursing in the United Kingdom.* London, RCN.

Royal College of Nursing, UK (2012) *Mandatory Nurse Staffing Levels.* London. Royal College of Nursing.

Royal College of Nursing (2014) *Learning from the past- setting out the future: developing learning disability nursing in the United Kingdom.* (Updated - March 2014). London, RCN.

Rose, D., Horne, S., Rose, J.L. and Richard P. Hastings, R.P. (2004). Negative emotional reactions to challenging behaviour and staff burnout: Two replication Studies. *Journal of Applied Research in Intellectual Disabilities,* 17, pp.219–223.

Rose, J., Mills, S., Silva, D. and Thompon, L. (2013). Client characteristics, organizational variables and burnout in care staff: The mediating role of fear of assault. *Research in Developmental Disabilities,* 34, pp.940–947.

Slevin, E. (2004). Learning disabilities: A survey of community nurses for people with prevalence of challenging behaviour and contact demands. *Journal of Clinical Nursing*, 13, pp.571- 579.

The Francis Report (2013) Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry (HC 898-I). London: The Stationery Office.

Tuffrey-Wijne, I Giatras, N Goulding, L Abraham, E Fenwick, L Edwards, C and Holins, S (2013) *Identifying the factors affecting implementation of strategies to promote a safer environment for patients with learning disabilities in NHS Hospitals: A mixed methods study.* Health Services Delivery Research. 1. (13). 1 - 224.

U.K. Chief Nursing Officers., (2012) *Strengthening the Commitment: The Report of the UK Modernising Learning Disabilities Nursing Review.* Edinburgh: Scottish Government.

White, C and Marsland, D (2012) *Early indicators of concern in residential and nursing homes for older people*. Hull. Centre for applied research and evaluation, University of Hull.

Zijlmans, L.J.M., Embregts, P.J.C.M., Bosman, A.M.T. and Willems, A.P.A.M. (2013). The relationship among attributions, emotions, and interpersonal styles of staff working with clients with intellectual disabilities and challenging behavior. *Research in Developmental Disabilities*, 33, pp.1484–1494.

Appendix 1: *Summary of studies using modified data extraction tool*

Author(s) / Year / Country	Aims / Purpose of study	Methods	Findings	Recommendations	Limitations
Mafuba and Gates (2014) / UK	Explored and explained the contribution of community learning disability nurses in the implementation of public health policies for people with learning disabilities.	• 9-item online questionnaire survey • Non-proportional quota sampling was used. • 171 community learning disability nurses. Bands; 5 (n = 19); 6 (n = 67); 7 (n = 59); (n = 26).	• Continuous changes to the public health role of LD nurses impact on role clarity. • Complex moderators of how community learning disability nurses enact their public health roles. • Lack of role clarity.	• Need for nationwide randomised studies.	• Relatively small sample. • Non-longitudinal study provides a snapshot.
Mafuba (2013) / UK	• Explored how public health policy was reflected, and articulated in community learning disability nurses' job descriptions, and or person specifications. • Described, and hypothesised how community learning disability nurses interpreted and enacted their public health roles. • Explained moderators of how community learning disability nurses enacted their public health	• 3-stage exploratory sequential multiple methods study. • Stage 1 was documentary, and involved collecting and analysing community learning disability nurses' job descriptions, and or person specifications (n = 205). • Stage 2 was descriptive, and used a grounded theory approach (n = 17 nurse consultants). Stage 3 was explanatory, and involved an online questionnaire survey (n = 171 community learning disability nurses).	• Continuous changes to the public health role of LD nurses impact on role clarity. • Complex moderators of how community learning disability nurses enact their public health roles. • Lack of role clarity. • Demographic ignorance of the population of people with learning disabilities impact on how community LD nurses enact their public health roles. • Specialist practice influence how community learning disability nurses enact their public health roles.	• Need for nationwide randomised and explanatory studies. • Regular review of roles and role specifications needed to ensure role clarity. • Development of standardised local registers of people with learning disabilities.	• Relatively small sample. • Non-longitudinal study provides a snapshot. • Qualitative components have limited generalizability.

	roles in implementing public health policy for people with learning disabilities in the context of role theory.				
Rose *et al* (2013) / UK	Examination of the relationship between staff psychological well being, challenging behaviour and a therapeutic environment.	• *Design:* Cross-sectional correlational. • *Participants:* 78 'qualified' and 'unqualified' staff from NHS and private organizations (6 organizations) (14% of participants worked in secure units) (11.84% registered nurses). • *Instruments:* Fear of assault scale / A checklist of challenging behaviours / Maslach Burnout Inventory – Human Services Survey (MBI-HSS) / Modified version of Essen Climate Evaluation Schema.	• Changing the way staff perceive challenging behaviour reduces stress levels.	• Changing environmental, organizational and staff cognitive variables to reduce stress. • Provide programs of support for staff.	• Small sample • Low response rate • Survey instruments were too long
Knotter *et al* (2013) / The Netherlands	Examination of the relationship between staff's positive and negative attitudes towards aggression and their interventions in response to aggressive behaviour.	• *Participants:* 121 direct care staff from 20 teams working in a wide range of facilities for people with learning disabilities. • *Analyses:* Multilevel regression	• More experienced individual staff members provided more personal space and behavioural boundary setting in response to aggressive behaviour. • A more negative attitude towards aggression was associated with more frequent use of coercive measures. • 'the team' has an important role in the determination of the type of behavioural intervention • Characteristics of individual staff members related to their behavioural interventions were working experience and	• Interventions that aim to enhance quality of care should target the negative attitude towards aggression on a team level, because the team attitude seems to be the most important predictor of coercive measures.	• Different dialogical definitions of challenging behaviour' by the participants.

			age. • Highly experienced teams more frequently restricted the freedom of their clients than less experienced teams.		
Kozak *et al* (2012) / Germany	Investigated the potential predictors of personal burnout among staff. Investigated association between personal burnout, and health and work-related outcomes.	*Design:* Explorative cross-sectional survey. *Participants:* 409 staff (response rate 45%) (57 / 13.9% Registered Nurses) working in 30 residential facilities (29.6% had up to five years of professional experience). *Instruments:* Copenhagen Psychosocial Questionnaire (COPSOQ) and Copenhagen Burnout Inventory multiple *Analyses:* Logistic regression.	• Higher levels of personal burnout were significantly correlated with higher rates of intention to leave the job and cognitive stress symptoms. • Low values of personal burnout were associated with greater job satisfaction, good general health, and higher satisfaction with life. • Significant association between burnout and age groups, professional experience, and alternating shifts. • Female workers had a significantly higher level of burnout than their male counterparts. • Link between the length of professional experience and personal burnout. • Significant association between personal burnout and perceived stress due to client aggression. • Organizational variables were most reliable predictors of burnout. • Burnout among staff is induced by emotionally charged client contacts. • Significant impact of job insecurity on personal burnout. • Constant performance feedback may reduce the risk of personal burnout. • Staff who reported that they were highly stressed from the aggression of the clients more often showed a higher risk of personal burnout.	• Improving the psychosocial work environment at the organizational level in order to reduce personal burnout and diminish unfavourable outcomes, such as intention to leave or job dissatisfaction • Implementing supportive measures to prevent personal burnout.	• Cross-sectional design is insufficient for deriving causal relationships. • Subjective measurement of general well-being.

Zijlmans *et al* (2012) / The Netherlands	Investigated the influence of type of CB on attributions, emotions and interpersonal style of staff.	*Participants*: 99 staff working in a wide range of facilities (mean experience of working with people with LD was 10.0 years). *Instruments:* Challenging Behaviour Attribution Scale / Emotional Reactions to Challenging Behaviour Scale / Staff–Client Interactive Behaviour Inventory *Analyses:* Hierarchical regression, and mediation analyses.	• Type of CB was related significantly to the staff variables (gender / work experience / contract). • Staff members working with clients who showed CB aimed at the environment perceived CB as more controllable, experienced more fearful and anxious emotions when dealing with CB and scored higher on the interpersonal styles 'control' and 'hostility'.	• Need longitudinal research.	• Functional analysis was not conducted to assess the actual cause of CB of clients. • Training and coaching experiences of staff were not investigated. • Cross-sectional study - emotions, beliefs and staff behaviour may change over time.
Glover and Emerson (2012) / UK	To report on trends in the number of learning disability nurses working in the English National Health Service (NHS).	The paper provides secondary analysis of data from NHS workforce statistics.	• Over the period 2008 to 2011, there was a decline of 23 per cent in the number of whole time equivalent learning disability nurses employed by the NHS.	• Learning disability nurses are crucial to modern community based learning disability services.	• Possible incomplete NHS data.
Hensel *et al* (2012) / Canada	Investigated the association between frequency and severity of exposure to client aggression and burnout found among community staff that supported adults with LD in Ontario.	*Design:* Cross-sectional survey. *Participants:* 926 community staff (78% worked in residential or respite services; 11% worked in day centres, and 10% in supported independent living environments. 581 (63.8%) had specialized degree or training - degrees in direct care services work, personal support work or nursing). *Instruments:* Maslach Burnout Inventory – Human Services Survey (MBI-HSS). *Analyses:* Pearson correlations.	• Positive association between exposure to client aggression and burnout.	• Need for interventions which support staff in dealing with challenging behaviours.	• Convenience sample of voluntary participants. • Cross-sectional study and therefore a causal link should not be inferred.

Gray-Stanley and Muramatsu (2011) / USA	Examined types of work stress related to direct care staff burnout, and how social and personal resources, such as work social support and locus of control, contribute to lower burnout for staff caring for adults with LD.	*Design:* Questionnaire survey *Participants:* (n = 323) (47% response) from five community-based organizations that provided residential, vocational, and personal care services for adults with intellectual and developmental disabilities. 97 (33%) had degrees and (197) 67% had partial college/specialized training. *Instruments:* Maslach Burnout Inventory Human Services Survey + other (work social support / locus of control / work stress). Analyses: Multiple regressions.	• Work stress, specifically work overload, limited participation decision-making, and client disability care, was positively associated with burnout.	• Work social support can help lessen burnout. • Interventions needed to help workers develop personal stress management resources.	• Cross sectional data, therefore can only determine associations, rather than causation.
Mutkins *et al* (2011) / Australia	Examined cross-sectional associations between client behaviour and staff burnout.	*Design:* Questionnaire survey. *Participants:* 80 disability support staff in community based services. Staff qualifications (trade certificate / diploma (44%, 35); university degree (41%, 33); higher school certificate or equivalent (12). (51%, 41) had specific LD support qualifications; (33%, 26) had other allied health qualifications (e.g. nursing); (13) had no qualifications. Most staff had worked in the LD sector for 5–10 years (44%, 35), 1–5 years (26%, 21) or more than 10 years (26%, 21), with the remainder employed for less than 1 year (3). *Instruments:* MBI: Human Services Survey (MBI-HS, 3rd edition) / DASS-21 Survey of POS / Social Support Questionnaire. *Analyses:* Cross-sectional regression analyses.	• Low organizational support was frequently concurrent with burnout symptoms. • Personal and organizational supports may have militated against potential for emotional exhaustion. • Client behaviour was not shown to be related to burnout. • Challenging client behaviour was not sufficient to induce significant stress or distress in staff.	• Personal supports (i.e. work and social support) are needed to reduce burnout.	• Small sample and multiple analyses may have led to inflation of the Type I error rate. • Low response rate. • Scale used to assess client behaviour variables was not well validated.

Kowalski *et al* (2010) / Germany	Examined the association between emotional exhaustion and social capital, workload, and latitude in decision-making, after controlling for gender, age, work experience, and job tenure.	*Design:* Questionnaire survey. *Participants:* 175 direct care staff (e.g., nurses, certified nursing assistants, social workers, and disability support workers) (56.8% response) in both residential and non-residential services, and staff at all levels. *Instruments:* German version of the Maslach Burnout Inventory-General Survey (MBI-GS). *Analyses:* Multivariate logistic regression analysis.	• Age, years of professional experience, and job tenure did not have a significant impact. • Findings suggest a relationship between workload and latitude in decision-making, gender, and emotional exhaustion in professionals working with people with disabilities. • Organizational factors have prominent role in the development of burnout.	• Strategies to reduce emotional exhaustion should predominantly aim at improving factors of work organization and reducing workload. • Participatory working and reduced workloads may minimize the risk of emotional exhaustion.	• Cross sectional design does not allow causal inferences to be made.
Lernihan and Sweeney (2010) / Ireland	Investigated whether staff caring for people with learning and communication disabilities experience burnout.	*Design:* Cross-sectional descriptive design *Participants:* 100 direct care workers providing residential and day care services to people with communication difficulties and an intellectual disability were interviewed about their experiences, including nurses, healthcare assistants, counsellors, psychologists, teachers, and social care and catering staff, working on a given day. A non-probability sampling. *Instruments:* Maslach Burnout inventory-Human Services Survey *Analyses:* Bivariate, non-parametric descriptive and inferential statistical tests.	• About 30 per cent of direct care workers experienced moderate to high levels of emotional exhaustion, most had not reached a high level of depersonalisation and more than two thirds felt high levels of personal achievement. • Experience, current qualifications and training specific to communication had no significant relationship to any of the variables.	• Causes and symptoms of burnout can and should be addressed promptly for the sake of the staff, service users and the organization. • Management should develop appropriate early intervention strategies. • High stress levels and negative attitudes among staff should be promptly addressed, not least to enhance the quality of care delivered to people with LD.	• Small sample size. • Convenience sample. • Restricted range of data variables.
Chung and Harding (2009) / UK	Investigated the impact of personality traits on burnout and psychological well being among care staff working with people with intellectual disabilities and challenging behaviour.	*Design:* Cross-sectional questionnaire survey. *Participants:* 103 staff from 13 residential community homes (69% response rate). 20% were qualified nurses. The average length of time working in LD services was 8 years. *Instruments:* Aberrant Behaviour Checklist (ABC) / Maslach Burnout Inventory (MBI) / General Health	• Staff perception of challenging behaviour predicted burnout. • Significant relationship between burnout (i.e. emotional exhaustion and personal accomplishment) and challenging behaviour. • No significant relationship between psychological well-being and challenging behaviour.	• Training programs for staff should incorporate the complex relationship between personality traits and well-being. • Staff working with clients with intellectual disabilities and challenging	• Challenging behaviour from the perspective of individual staff did not encapsulate the range of challenging behaviours that any individual

		Questionnaire-28 (GHQ-28) / NEO-Five Factor Inventory (NEO-FFI). *Analyses:* Descriptive + hierarchical multiple regression tests.		behaviour should be made aware of how their own personality traits could affect their well-being in a negative way.	members of staff would have confronted. • There was no data on the extent to which the staff themselves had been injured or assaulted physically or verbally from their clients with challenging behaviour.
Howard *et al* (2009) / UK	Explored the relationship between levels of violence, with fear of violence, self-efficacy, staff support and burnout.	Design: Questionnaire survey. Participants: 82 (44 care staff in a medium-secure setting with a high incidence of violence, and 38 care staff in community settings with a low incidence of violence). Instruments: The Maslach Burnout Inventory / The Staff Support and Satisfaction Questionnaire (Version 2) / Difficult Behaviour Self-efficacy Scale / Fear of violence measure / Actual Level of Violence Measure 1. Analyses: Not clearly identified.	• Medium-secure staff reported significantly lower fear of violence and higher self-efficacy compared with community staff. • Increased burnout significantly correlated with increased perceived exposure to physical violence and reduced staff support. • Self-efficacy demonstrated a significant moderator relationship with levels of violence and burnout. • Higher threats of violence significantly correlated with lower fear of violence. • Services, which are organized to manage violence, may be better placed to support staff experiencing violence. • Emotional exhaustion had a significant positive correlation with staff support.	• Preparing and training staff for managing violence is an effective way to reduce staff burnout and increase self-efficacy.	• Retrospective design – not possible to determine causality. • Measures relied largely on self-report and may be unreliable, particularly in the case of fear of violence, which may be subject to social bias.

Dennis and Leach (2007) / UK	Examined the level of expressed emotion and burnout in staff caring for people with learning disabilities and psychosis detained under the MHA83 on a medium secure unit.	*Design*: Interviews + survey questionnaire. *Participants:* 10 staff (6 RNs + 4 health care support workers) (The nursing team comprises 60% qualified registered nurses (RNs) and 40% Health Care Support Workers; 54% of RNs have a learning disability nursing qualification, 38% have a qualification in mental health and 8% hold a dual qualification. Nursing care is delivered using a triumvirate nursing system (Melia et al.1999)). *Instruments:* The Five Minute Speech Sample and Maslach Burnout Inventory / Five-Minute Speech Sample.	• Expressed emotion was higher in male staff and in Health Care Support Workers. • There was evidence of high expressed emotion and some elements of high burnout within the staff team. • There was a significant relationship between the level of high expressed emotion and the depersonalisation element of burnout.	• Staff support strategies, training and supervision are essential.	• Small sample size has limited the generalizability. • Participants were self-selecting, which may impact on results as more enthusiastic staff may have been attracted; the sample may therefore not be representative of the staff team.
Barr (2006) / UK	Provide an overview of the changes in the caseload and working practices of community nurses for people with learning disabilities (CNLDs) over an 11-year period within one region of the UK.	A survey design was used in which the total population of Community learning disability nurses in Northern Ireland were asked to complete a postal questionnaire (n = 40).	• Provided information about 1559 people with learning disabilities on their current caseloads. • Community LD nurses had less involvement with children, • Role focused on adults with physical and mental health needs. • Nurses often appeared to have a monitoring rather than an active clinical role. • Data also identified an increasing caseload size (26-65+, mean = 39). • Referrals were largely from within learning disability services. • 69.6% of people with LD were seen at least once per month; 24.15% - fortnightly; 25.01% - monthly.	• A refocusing on the role and contribution of the 'nursing' component of the community learning disability nurse role and an increased 'throughput' in caseloads with more effective admission and discharge procedures.	• Only nurses working within Northern Ireland were included in this survey. • These nurses worked within a joint health and social services structure, rather than the largely separate health and social services structures within most other parts of the UK. Therefore the findings of this study are not immediately generalizable to other services.

Hames and Carlson (2006) / UK	• Examined whether primary health care team members knew what services were provided by their local learning disability team, and in particular whether they used specialist learning disability workers to identify health care needs.	• Postal questionnaire survey. • 152 and 44 returned (response rate = 29%). • Participants (1) GPs 43%; (2) Nurses 27%; (3) Health visitors 18%; (4) Physiotherapists 2%; (5) Dieticians 2%; (6) Counsellors 2%; (7) Unidentifiable 5%.	• 36% of respondents had some contact with their learning disability team. • 21% of the noncontact group had no idea of the team's role. • 50% of the contact group additionally recognized the team's role in assessment of needs or skills. • Low awareness of the community nurse and the role of the nurse in health facilitation and health promotion.	• Need to raise awareness of the role of community learning disability nurses among primary care professionals through awareness training.	• Small sample. • Low response rate.
Mascha (2006) / UK	The study identified: • levels of burnout amongst staff day services; • self-reported sources of support as well as stress for the staff; • levels of role clarity, job satisfaction, supervision and propensity to leave in relation to burnout levels; • coping strategies used by staff in relation of burnout, and finally.	*Design:* Questionnaire survey. *Participants:* 36 direct-care staff from four day care centres (response rate 40.91%). Staff to client ratio ranging from 1:3 to 1:4.7. *Instruments:* Maslach Burnout Inventory / The Staff Support Questionnaire (SSQ) / The Shortened Ways of Coping Questionnaire (SWC-R) (Revised).	• Staff experienced moderate degrees of emotional exhaustion. • Staff had a high propensity to leave the service. • Factors influencing staff morale were staff support and supervision, role clarity, wishful thinking, staff and other practical issues regarding the day-to-day running of the service.	• Staff support systems, role clarity and supervision are essential in ameliorating emotional exhaustion.	• None identified.
Innstrand *et al* (2004) / Norway	Evaluated possible changes in stress, burnout, job satisfaction after stress-reducing interventions were applied to an experimental group.	Design: Longitudinal; quasi-experimental. Study measured means differences of stress, burnout, and job satisfaction following different interventions were applied to one group of staff (n = 79), with one group as control group (n = 33). All staff worked in community residential care services.	• Significant reduction in stress and exhaustion. • Strong significant rise in job satisfaction.	• None identified.	• The treatment and control groups were aware of the interventions resulting in resentful demoralization of the control group.

		Maslach Burnout Inventory – General Survey (MBI-GS) Covariate analysis.			
Rose *et al* (2004) / UK	Tested the association between negative emotional reactions to challenging behaviour and staff well-being.	*Design:* Questionnaire survey *Participants:* *Study 1:* 101 staff rated their typical emotional reactions to challenging behaviours experienced as a part of their work. 67.3% had no formal qualifications and worked in social care settings. *Study 2:* 99 staff rated their negative emotional reactions to written challenging behaviour vignettes. *Instruments:* Maslach Burnout Inventory (MBI) / Emotional Reactions to Challenging Behaviour scale *Analyses:* Pearson correlations.	• Significant positive correlations were found between negative emotional reactions to challenging behaviour and emotional exhaustion and depersonalisation burnout. • Negative emotional reactions are associated with burnout. • No significant correlations between length of experience and either burnout or emotional reactions.	• Managing staff emotional reactions to challenging behaviour (e.g. through staff support interventions such as counselling after incidents) or intervening using cognitive techniques to reduce the experienced severity or frequency of these emotions may help to minimize staff stress and burnout.	• None identified.
Felce and Perry (2004) / UK	Explored association between age and size of setting and staffing per resident.	*Design:* Informant interviews *Participants:* 51 settings were randomly selected (85% response rate). (Resident ages, gender, adaptive behaviour, physical and sensory disabilities, social impairment and challenging behaviour, number of working hours of staff, staff, resident ratios, support levels, and resident activity was collected). *Instruments:* ABS Part One (Community and Residential Version) / Aberrant Behaviour Checklist / Disability Assessment Schedule / Residential Services Working Practices Scale.	• Age of residents was associated with larger residence and fewer staff hours per resident. • Higher staffing per resident was associated with smaller settings. • Staff : resident ratios differed across adaptive behaviour groups.	• None identified.	• None identified.

Slevin (2004) / UK	Aimed to identify the overall caseload sizes of the nurses, the prevalence of people with learning disabilities who have challenging behaviours on the nurses' caseloads, what contact demands these people required and courses or training that helped the nurses to fulfil their roles.	*Design:* Postal survey of community nurses for people with learning disabilities in Northern Ireland. *Participants:* 44 community learning disability nurses (68% response rate). *Instruments:* Self-completion questionnaire. *Analyses*: Descriptive statistics.	• Combined caseloads = 1985; of these 642 (32%) were children. • Mean caseload size = 45 (range = 10-165 (SD ¼ 30.96)). • (28%) were reported to have challenging behaviours, 206 - (32%) of children and 344 (26%) of the adults were reported to have challenging behaviour. • Clients who had challenging behaviour across all the individual nurses caseloads was mean 12.5, maximum 44, minimum 0 (SD ¼ 9.28). • Of the 44 participants only two (4.5%) reported that they did not have any clients with challenging behaviours on their caseload. • Frequency of contacts (28% - monthly; 25% - weekly; 20% - 2-weekly).	• The numbers of community learning disability nurses needs to increase to allow a reduction in the caseload sizes of these nurses; • Nurses should be encouraged and supported to undertake courses and additional training to allow them to meet the needs of people who display challenging behaviours better. • Further research suggested should involve a deeper analysis of the roles and functions of community services for people with learning disabilities, using qualitative and quantitative methods.	• Only nurses working within Northern Ireland were included in this survey. • These nurses worked within a joint health and social services structure, rather than the largely separate health and social services structures within most other parts of the UK. Therefore the findings of this study are not immediately generalizable to other services.
Holloway (2004) / UK	Investigated support available to community learning disability nurses to assist in resolving ethical dilemmas, and their knowledge and use of best interests guidelines.	*Design:* postal questionnaire survey. *Participants:* 141 community learning disability services in England and Wales. *Analysis:* Descriptive statistics.	• The most commonly noted support was ethical committees to help with dilemmas in relationships and lifestyle (79.5%) and finance 75.0%) and policies and procedures to help with financial dilemmas (74.1%).	• Helpful sources of support are talking to colleagues, reflective practice, multidisciplinary working, clinical supervision, access to the evidence base, and training.	• None identified.

Boarder (2002) / UK	Investigated community learning disability nurses' perceptions of their work.	*Design:* Semi-structured interviews. *Participants:* 20 community learning disability nurses with 5-15 years of experience in Wales. Purposive sampling approach.	• Caseload size – 15-35 (multiple disabilities; mental health problems; epilepsy; general health difficulties; sexual problems; offenders and those with challenging behaviours; people with autism; older people with learning disabilities; and children with life limiting conditions). • Wide variation of role – 'jack of all trades'. • Need for greater clarity of role. • Development of specialist roles of interest.	• Need for research to examine how nurses are perceived by clients, carers, other professionals and service providers. • Work needs to be carried out to raise community learning disability nurses' profile and disseminate understanding of their role.	• Findings are self-reports of own work. It is a perception of their own work, which has not been externally verified for validity.
Mobbs *et al* (2002) / UK	Described the way in which community learning disabilities nurses work within National Health Service (NHS) trusts in England, the other professionals whom they relate to, the client group whom they serve, their qualifications and their working practices.	*Design:* Postal questionnaire survey. *Participants:* Managers of community learning disability nurses as informants (n = 136; 81% response rate) (136 NHS Trusts across the UK). *Analysis:* Descriptive statistics.	• (43%) NHS trusts employed nurses specifically to work with people with challenging behaviour, 29 (27%) had nurses dedicated to child health, 25 (23%) had nurses specializing in epilepsy, 20 (20%) had nurses dedicated to forensic issues and 19 (18%) had nurses specializing in the mental health of people with learning disabilities. • Training was offered in: epilepsy (n = 126, 95%), challenging behaviour (n =112, 88%), drug administration (n=94, 82%), skills development (n=91, 81%) and mental health (n=85, 76%). • 24 NHS trusts (18%) had an LD nurse out-of-hours on-call service.	• Further research to compare findings.	• Recruitment of participants. • Because the questionnaire was completed by community nurse managers, the replies may not reflect current community nursing practices as accurately as if nurses themselves had completed questionnaires.
Mitchell and Hastings (2001) / UK	Explored staff coping, emotional reactions to challenging behavior, and burnout in community-based services.	*Design:* Questionnaire survey *Participants:* 83 care staff members from 23 community residences encompassed within five service organizations (statutory and private/voluntary organizations) (33.5% response rate). 27% were RNLD? *Instruments:* Emotional Reactions to	• Staff disengagement and adaptive coping strategies and their emotional reactions to aggressive behaviour predicted burnout.	• Interventions with staff members that reduce their experience of burnout may result in positive benefits for people who engage in challenging behaviours.	• The measure of emotional reactions to challenging behaviour used in the present study was explicitly developed for the

		Aggressive Challenging Behaviour Scale / COPE inventory / Maslach Burnout Inventory. *Analyses:* Regression analyses.			purpose - ?validity. • Low response rate.
Perry *et al* (2000) / UK		*Design:* Documentary + interviews with direct carers. *Participants:* 88 (15%) settings were randomly selected from 585 settings. Data on size, homeliness and physical integration of settings, organizational culture, working methods, staffing levels and resident characteristics, were collected on a stratified random sample of provision in South-West England and Wales. The contracting officer in each county/authority was asked for information about all staffed houses serving six or fewer people with learning disabilities. 91%response rate. Interviews were conducted with direct carers. *Instruments:* The Adaptive Behaviour Scale (part one) (ABS) / The Aberrant Behaviour Checklist (ABC) / The Psychiatric Assessment Schedule for Adults with a Developmental Disability (PASADD) checklist / The Disability Assessment Schedule (DAS) / The Characteristics of the Physical Environment Scale (CPE) / Physical Integration ratings from Program / Analysis of Service Systems 3 (PASS 3) / The Working Methods Scale (Revised) (WMS) / The Group Home Management Schedule (GHMS).	• There were significant differences between providers on the important variables of working methods and staffing levels. Resident ability correlated with staffing levels and organizational culture, but not with staff working methods. • Provider agencies did not differ significantly on three of the four variables relating to residents' characteristics. • The correlation between staff hours and ability was not significant within health and local authority settings, and privately operated settings. • It was not clear that staffing level is the key determinant of service quality. • Staffing levels within settings of a similar type were not a significant determinant of the level of interaction, which residents received from staff. • Ways of working and the procedures adopted were key determinants of service quality. • High correlation was found between staffing levels and resident ability. • The relationship between staffing level and quality were complex.	• Intensively staffed settings with the less able residents implied a certain level of rationality in the resourcing of services.	• None identified.
Hatton *et al* (1999) / UK	Investigated factors most strongly associated with general distress, job strain and work satisfaction.	*Design:* Questionnaire survey. *Participants:* 450 staff (44% response rate) from 5 LD specialist services. *Instruments:* Basic characteristics of staff **/** Job activities **/** Job control **/**	• Three factors accounted for 28% of the variance in general distress scores: (1) wishful thinking, (2) stress linked to work-home conflict and (3) role ambiguity.	• Increased training in practical skills and stress management programs focusing on problem-focused coping strategies	• None discussed.

	Investigated factors, which are directly and indirectly associated with general distress, job strain and work satisfaction.	Quantitative workload **/** Role ambiguity and role conflict **/** Job feedback **/** Support from immediate supervisor and support from colleagues **/** Influence over work decisions **/** Potential sources of stress **/** Actual and ideal organizational culture / Commitment **/** Social desirability scale **/** Coping strategies **/** Community services orientation **/** The GHQ-12 **/** Job strain **/** Work satisfaction **/** Subjective labour conditions**.** *Analyses:* Path analyses.	• Six factors accounted for 50% of the variance in job strain scores: (1) wishful thinking, (2) stress linked to a lack of staff support, (3) alienative commitment, (4) role ambiguity, (5) stressors linked to a low status job and (6) working longer contracted hours. • Six factors accounted for 66% of the variance in work satisfaction scores: (1) stress linked to a low status job, (2) support from supervisors, (3) influence over work decisions, (4) alienative commitment, (5) support from colleagues and (6) older staff age. A range of factors indirectly	ensuring that staff are clear about what they supposed to be doing. • Providing more support to staff. • Increasing the opportunities for career development and control. • Fostering positive commitments to the organizations.	
Chung and Corbett (1998) / UK	Compared burnout of staff between an institutional setting, i.e. hospital-based bungalows, and a community unit. Investigated the association between staff burnout and clients' challenging behaviour with autistic features.	*Design:* Questionnaire survey (pilot study). *Participants:* 38 (26 nursing staff in treatment and rehabilitation units of clients with LD and challenging behaviour. Staff: client ratio average 2: 1. + 12 nursing staff from a community unit offered residential and day care. Staff: client ratio was 1: 4.5). Instruments: Aberrant Behaviour Checklist (ABC) / Staff Questionnaire (SQ) (collect basic data) / Maslach Burnout Inventory (MBI).	• Hospital-based bungalow staff experienced high levels of burnout, that they were dissatisfied with many aspects of their work and that they were in need of help. • The level of burnout in the community unit staff was low and they felt generally more satisfied than the bungalow staff. • Clients' challenging behaviour was not associated with burnout. Various management issues appeared to be more important which confirmed the previous findings mentioned in the literature.	• Need for further training on different ways of managing challenging behaviour. • Administrative workload of the staff should be reduced allow more time for staff-client engagement. • Provide counselling opportunities for some staff.	• Small sample size. • Clinical characteristics of the clients in the two settings were different.

Felce and Perry (1995) / UK	Investigated the relationship between staffing levels, resident characteristics, and staff: resident interactions.	*Design:* Questionnaire survey. *Participants:* Staff from 15 residential homes in South Wales. Instruments: Adaptive Behaviour Scale Part One (ABS) / Social and Physical Incapacity and Speech, Self-Help and Literacy Scales / Disability Assessment Schedule.	• The extent of staff: resident interaction per staff was related to resident characteristics. • The level of staff support given to residents with more substantial disabilities, slightly higher than that given to more able residents, reflected high staffing input. • Resident engagement in activity was strongly related to ability. • Participation in household activity was virtually non-existent among residents. • Staff: resident range (0.05:1 – 1.5:1).	The relationship of staff activity to resident behavioural characteristics demonstrated here shows that staff caring for people with greater disability and more prevalent challenging behaviours spent less time interacting with residents than those in houses catering for more able people without challenging behaviour. This is a problem, which needs to be addressed if high quality services for people with such high support needs are to be developed. Compensating for this tendency by increasing staff: resident ratios may not be a successful strategy even if it were affordable.	• None identified.
Parahoo and Barr (1994) / UK	Investigated job satisfaction of community nurses working with people with learning disabilities.	*Design:* Questionnaire survey. *Participants:* 36 community learning disability nurses in Northern Ireland (72% response rate). *Analysis:* Descriptive and inferential statistics using MINITAB. Thematic analysis of qualitative data.	• Mean caseload size (42.7; range = 4-80). • The level of satisfaction increase with grades. • Nurses in the 35-49 age group also reported lower levels of satisfaction, • Job satisfaction decreased with increasing size of the caseload. • Factors contributing to job satisfaction (MDT working, involvement with clients, progress of clients, varied aspects of work, autonomy, appreciation of clients). • Factors contributing to dissatisfaction (heavy caseload, administrative work, lack of resources, lack of communication,	• Managers of community learning disability nurses need to address the factors that contribute to job dissatisfaction.	• Small sample. • Questions were not designed to find out how important these factors were and which ones were more important

			lack of recognition from other staff, lack of support from management).		

Total number of studies retrieved	73	Studies focusing on other staffing issues not relevant to nursing	4
Excluded studies		Non-original studies	7
Studies discounted after initial	12	Studies focussing on service development	7
Untraceable studies	2		
Studies focusing on 'instrument' development	5		
Literature reviews which included studies included in the current review	3		
Studies focusing on 'support workers'	1		
Studies focusing on 'generic disability'	1	**Studies included in the review**	**31**