De-Escalation and Restraint Training For Clinicians

A literature review

The NATIONAL CENTRE of MENTAL HEALTH RESEARCH, INFORMATION and WORKFORCE DEVELOPMENT

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Te Pou
o Te Whakaaro Nui

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Executive summary

District health boards (DHBs) have for many years been providing de-escalation and restraint training[1] to up-skill clinicians, to assist in responding to mental health service user distress and behaviours of concern within institutional settings. Recent government directives to reduce the use of seclusion have provided New Zealand mental health services with a responsibility for further change in clinical practice.

However clinical leaders in New Zealand have raised concerns that the implementation and quality of de-escalation training for mental health clinicians is inconsistent, and questioned whether much of the training is based on good research evidence. It has been suggested that national training guidelines are needed.

In response to these concerns, Te Pou undertook a literature review on the provision of de-escalation and restraint training, efforts being made internationally to develop guidelines for its delivery, and the evaluation of de-escalation and restraint training.

This report presents a summary of the literature reviewed, identifies common themes and contextual issues related to effective communication and de-escalation within mental health services, and identifies some key aspects considered essential to underpinning the development and implementation of de-escalation and restraint training. These include:

- Service readiness for change – organisational commitment to quality improvement in both clinical practice and service culture, including staff values, attitudes and skills
- A comprehensive approach that seeks to minimise factors that contribute to service user distress, rather than focusing only on aggression management techniques
- Training quality – developed from a robust evidence base and including an evaluation design which enables continuous quality improvement and measurement of impact on training objectives
- Consistency of training content, structure and delivery, based on an agreed 'best practice' framework for mental health and addiction services, which could include national training guidelines, and/or an agreed curriculum.

Review findings

National consistency and quality

This review found that attempts to develop more nationally consistent de-escalation and restraint training within mental health services varied considerably between the four countries included in the search (NZ, Australia, the UK and the US), with a lack of compelling evidence as yet, in favour of any

[1] De-escalation is defined as "a complex interactive process in which the highly aroused consumer is re-directed from an unsafe course of action towards a supported and calmer emotional state. This usually occurs through timely, appropriate, and effective interventions and is achieved by service providers using skills and practical alternatives." Restraint, on the other hand, is defined as "the use of any intervention by a service provider that limits a consumer's normal freedom of movement" (Standards New Zealand, 2008).

particular approach. There were no national standards for this type of training found, but some work had been undertaken towards this end. The UK's National Institute for Clinical Excellence (NICE 2005) had developed a relevant clinical guideline with a training component. Two national US organisations had developed national training curricula underpinned by a trauma-informed philosophy.

There is good evidence that supports the development and implementation of national guidelines as a mechanism for improving the quality and consistency of clinical services. There is less evidence of this approach being successful for improving training effectiveness. However, the potential shown in the literature for guidelines to change clinical practice is directly relevant to and supports the development of national guidelines for de-escalation and restraint training, as a component of national mental health workforce development planning.

All four countries had moved to reduce seclusion and restraint practices within mental health services.

Collaborating with service users

We found that staff training focused on collaboration with service users and on improving empathetic communication skills is a cost-effective approach to improving both service user and staff outcomes, including reducing staff turnover (Corrigan 1995, Crosland 2008, Jonikas et al. 2004, Smoot & Gonzales 1995). Courses should therefore be developed in partnership with service users and include service users as co-facilitators where possible.

Training content

This review suggests that training should have the following foci:

Prevention focus: The reduction of aggression and violence in mental health settings may require a more comprehensive approach that includes staff training, but also aims at changing environmental factors and underlying assumptions that inform service provision. Organisational factors that contribute to service user distress need to be identified, with the aim of minimising their impact.

Focus on effective communication and de-escalation skills: Training needs to be sensitive to the stresses that service users and staff are subjected to. Physical interventions are often attempts by staff members to cope with overwhelming situations. Staff training that focuses on communication and de-escalation skills in order to understand and calm conflict situations is useful to both service users and staff. For example, Whittington and Whykes (1996) showed good results in decreasing violent incidents after implementing training that solely focused on psychological de-escalation and relaxation methods. From limited evidence, it seems that the more collaborative approaches which focus on communication methods may be more effective in reducing aggressive incidents and restraint use than those that focus on aggression management alone.

Standardised physical techniques: There appears to be a marked variation in the physical techniques taught in training, and consequently used in practice. Evaluation of the effectiveness and acceptability

of physical training techniques needs to be undertaken and more consistency introduced, based on evaluation results.

Training evaluation

It is essential to build rigorous evaluation into training delivery, yet the research literature confirms that this is generally lacking. Training evaluation tends to be limited to recording participant feedback rather than attempting to assess whether training objectives were met, or linking to concrete outcomes such as changes in practice.

Training evaluation needs to be systematic and methodologically sound; using agreed direct and indirect outcome measures as well as a longer-term follow-up. Evaluation also needs to take into account service readiness, and occur at a time that allows for any impact from training to have had time to take effect in practice.

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Introduction

Mental health and addiction services in New Zealand are concerned with quality of care, achieving the best health outcomes, and safety of staff and service users. There is a constant need to upskill the workforce to meet changing population needs and to provide relevant and effective mental health care. Quality workforce development, training, and support are key influencing factors for the sustainability of a skilled workforce best equipped to manage the complexities that exist in mental health and addiction service settings.

Training mental health clinicians to manage situations where service users' behaviours raise concerns for their own safety, the safety of others, or the safety of the environment, is both important and contentious. It is important because training is thought likely to directly or indirectly affect outcomes for service users and clinicians, including rates of restraints and seclusion, and the safety of all those concerned. It is contentious because this kind of training is underpinned by beliefs about the way service users behave and what clinicians should do about this. The place of clinicians' own attitudes and values, and the role of the environment in the behaviour of service users, are often not well understood or agreed upon. As will become evident, our review of training evaluation literature highlights the importance of engagement and good communication methods in managing behaviours of concern within mental health services.

As a national workforce development agency, Te Pou has a role in assisting services throughout New Zealand to reduce the practice of secluding or restraining service users, in line with the recent government policy shift away from the use of seclusion and restraint within mental health services (Ministry of Health, 2010).

DHBs are now expected to reduce seclusion and restraint rates in acute inpatient units, and the provision of certain kinds of de-escalation training has been a constructive response to this change. Some services have taken steps to upskill clinicians and change clinical and therapeutic practice, using sensory modulation[2] and/or de-escalation training with a focus on communications and trauma-informed approaches.

While concerns have been raised that reduction of seclusion and restraint can put service user and staff safety at risk, research shows that reductions in seclusion and restraint can occur without a consequent increase in service user or staff injury rates (Te Pou, 2011b). In fact, barriers to achieving training outcomes and changing clinical practices may reflect more the service culture and environment than the quality or effectiveness of training. Training implementation and evaluation should therefore take into account service readiness.

There is anecdotal evidence of reductions in seclusion rates and other possible outcome measurements following changes to training in some New Zealand district health boards (DHBs). These changes include (i) a focus on de-escalation skills, (ii) an understanding of the role of clinicians' values and attitudes and the environment in bringing about situations of conflict, (iii) an appreciation of the prevalence of trauma in service users and its influence on escalated behaviour, and (iv) changes to "prone free, pain free" restraints. The content of these training programmes and their potential outcomes appear promising.

[2] For more information about sensory modulation the document *Sensory Modulation in Mental Health Clinical Settings: A Review of the Literature* can be viewed at: www.tepou.co.nz.

However, towards the end of 2010, the National Directors of Mental Health Nursing group (DOMHN) raised concerns with Te Pou about calming and restraint training, which was seen to be inconsistently delivered in structure, content, and implementation. The quality of available training was also questioned – in particular, whether training had been developed from good research evidence for effectiveness and impact, and met suitable standards.

Training was seen to vary in length and in the emphasis of the content. For example, some training focuses on learning methods for breaking away from being held by service users, while other training emphasises communication skills and secondary prevention, or de-escalation techniques. Similarly, some training uses techniques where service users are placed on the floor or in physical restraints (such as wrist locks), while other training is underpinned by policies that emphasise 'prone-free, pain-free' holding of service users.

Following on from these concerns, it was suggested that the development of evidence-based de-escalation and restraint training guidelines might assist the effective implementation of appropriate training within New Zealand mental health and addiction services.

This brief literature review is a response, in part, to the DOMHN's request. It summarises the status of de-escalation and restraint training in New Zealand and internationally, and examines the bulk of available evidence assessing de-escalation and restraint training practice. The paper identifies common themes and issues for services and proposes some key components in the development and implementation of effective training.

The results are intended to inform the development of a more consistent approach to staff training in this area, while recognising that each of the 20 DHBs interprets the Health and Disability Services Standards in the context of its own culture and philosophy of practice. The make-up of service user groups and local issues also need to be taken into account. For example, there may be local policies for accepting people intoxicated on methamphetamine or other substances into acute inpatient units.

Some DHBs conduct training which utilises the experience of their own clinicians, while others will contract training in from independent providers. The objectives of DHBs and private training programmes vary considerably. It appears that at one end of the continuum, training has a safety focus, and aims to comply with the standards and minimise harm to service users and staff. At the other end, the focus is on reducing restraint and seclusion, with the ultimate aim being to minimise or eliminate these practices.

Clearly, it is essential that both service user wellbeing and staff safety are addressed in future developments.

Search strategy

A search was carried out using the Google and Google Scholar internet search engines[3].

Because the main purpose of this literature review was to inform decision-making in the New Zealand context, all published evaluations of training in this area were identified, together with policy frameworks and other descriptive material that might be helpful in terms of implementation. A large number of the evaluation papers were limited to participant feedback, with a smaller number of papers identifying changes in workplace outcomes.

The search strategy resulted in the identification of 134 documents. A selection of 73 documents was assessed to have the highest relevance to the purpose. These included both journal articles and a number of papers that were largely descriptive but of relevance to the New Zealand context.

[3] Search terms used were: seclusion restraint training; seclusion + restraint + staff + training; de-escalation training + mental health; national guidelines + mental health + training; aggression management + mental health; sensory modulation +staff training; safehold training; calming + restraint + training.

Context for de-escalation and restraint training delivery in four countries

This section outlines approaches to the delivery and quality management of de-escalation and restraint training aiming to assist clinicians within mental health service settings, in the United Kingdom (UK), the United States (US), Australia, and New Zealand. In the UK and the US there have been some attempts at state or national level direction, and likewise in Australia there is movement that has come about through developments in seclusion and restraint reduction. In NZ there is no guidance at a national level for this type of training.

The four countries reviewed are at various stages of development of national approaches, and are either using, considering using, or developing evidence-based guidelines or standardised curricula in an attempt to improve the quality and consistency of training.

United Kingdom

In the UK, practices designed to manage situations of perceived violence from service users have been known as 'control and restraint' for over 20 years. Training in methods for staff who may need to actually initiate physical restraint "safely and effectively" is referred to (Paterson, 1992: 369). The use of the term 'control' rather than 'calming' appears to signal a position that the responsibility for aggressive behaviour lies with the service user (Paterson, 2009).

The National Institute for Clinical Excellence (NICE) guideline, *Violence: The short-term management of disturbed/violent behaviour in-patient psychiatric settings and emergency departments: Clinical guideline 25*, was published in the UK in 2005 from evidence covering a 3-year period (NICE 2005). This guidance was arrived at after consideration of available evidence over a three-year period. Health professionals in the UK are expected to take the guidelines fully into account when exercising their clinical judgement.

Interventions covered in the guideline include training. The training component requires clinicians to have the appropriate skills to manage disturbed or violent behaviour in psychiatric inpatient settings. This includes training for all clinicians in racial, cultural, spiritual, social and special needs, to ensure that they are aware of, and know how to, work with diverse populations. The guidelines state that training should be properly audited to ensure its effectiveness.

Since the publication of this guideline, there is some evidence that services and professionals are complying with it and that there are increasing efforts to disseminate training. However, there is still no clear consensus about what should be specifically included in training. There is also little evidence to support the effectiveness of training (Gournay, 2011).

There are currently no national training guidelines for physical interventions in the UK. The British Institute of Learning Disabilities has implemented an accreditation scheme for physical interventions in 2001, but accreditation does not apply to the mental health workforce. While there is some guidance in Wales, England and Scotland, as a result of the lack of national training guidelines or standards in mental health training, there tends to be broad diversity of training (Dickens, Rogers, Rooney, McGuinness, & Doyle, 2009).

United States

De-escalation and restraint training in the US is diverse in terms of taught techniques and underlying philosophies. Most states and providers with laws, regulations or policies governing the use of restraint and seclusion have adopted a training approach that mirrors the minimum standards provided in the federal regulations (Centers for Medicaire & Medicaid Service, 1999).

State level

Some US states have basic requirements for de-escalation and restraint training. Massachusetts and Pennsylvania have instituted a range of initiatives, and successfully reduced the incidence of seclusion and restraint (Le Bel, 2008). Massachusetts has basic requirements for de-escalation and restraint training, including the use of sensory interventions and therapies, an opportunity for trainees to experience restraint, and the experience of restraint from the service user's perspective (Department of Massachusetts Health, 2007).

National guidelines and curricula

There have been some national efforts to instigate de-escalation and restraint training guidelines and curricula. For example, the Centers for Medicare and Medicaid Services recently instituted training requirements and the American Psychiatric Nurses Association has standards of practice for restraint, with guidelines for training practice specified within the standards document. There are also two national bodies that have produced training curricula: the Substance Abuse and Mental Health Services Administration (2006), and the National Association of State Mental Health Programme Directors (2006). The former also promotes national training standards. These guidelines and curricula appear to draw primarily on institutional and professional experience.

In 2006 the Centers for Medicaire and Medicaid Service published the 'final service users' rights rule' on the use of restraints and seclusion, as a 'hospital conditions of participation' requirement. Under this rule, staff must be trained and able to demonstrate competency in applying restraints, implementing seclusion and monitoring, carrying out assessments, and providing care for a patient in restraint or seclusion. Training must occur before staff may perform restraint or seclusion, and must be included as part of staff orientation. After orientation, training must continue on a periodic basis. As well as more traditional components, such as safe application of restraint and seclusion, training includes environmental triggers and the choice of least restrictive intervention based on individualised assessment (Centers for Medicaire & Medicaid Service, 2006).

The American Psychiatric Nurses Association *Seclusion and Restraint Standards of Practice* (2007) require all clinicians to receive training and demonstrate current competency in all aspects of dealing with behavioural emergencies. Training programmes that focus on the prevention and use of seclusion and restraint must be evaluated at regular intervals to assure incorporation of evidence-based and best practices. Programmes should include prevention treatment processes, and opportunities for staff to develop an awareness of their own values and attitudes and how they might impact on their practice. This includes recognition of service users' backgrounds, including trauma histories (American Psychiatric Nurses Association, 2007).

The SAMHSA (2005) national training curriculum promotes sustainable strategies for supporting the elimination of seclusion and restraint. The curriculum explores the perspectives of service users and staff, the concepts of resiliency and recovery, the impact of trauma on service users and direct care staff, and changes that may be needed to drive cultural change. The curriculum also emphasises the importance of both service user and staff involvement in driving sustainable change, and takes

students through the development of personal and organisational action plans to reduce and eliminate seclusion and restraint (O'Hagan, Divis, & Long, 2008: 13–15).

The National Association of State Mental Health Programme Directors (2006) national training curriculum focuses on six core strategies for reducing the use of seclusion and restraint, which were derived from reviews of research literature. The six core interventions or strategies are:

1. leadership toward organisation change
2. use of data to inform practice
3. workforce development
4. use of seclusion and restraint prevention tools
5. full inclusion of consumers and families
6. making debriefing rigorous.

The curriculum is underpinned by a trauma-informed philosophy. It covers consumer and staff perspectives, erroneous assumptions about seclusion and restraint, the impact of trauma experiences, staff and service user perspectives on seclusion and restraint, as well as case studies of the reduction experiences in three US states (O'Hagan et al., 2008: 13–15).

Australia

In Australia, consideration of a national approach to de-escalation and restraint training has stemmed from recent seclusion and reduction restraint initiatives. In mid-2007 the National Mental Health Seclusion and Restraint Project (NMHSRP) was established as a collaborative initiative between the Australian Government and state and territory governments, with the primary aim of reducing and, where possible, eliminating the use of seclusion and restraint in public mental health services. A suite of national documents endorsed by Australian mental health services were developed as part of the project. This included a checklist of core training and educational priorities (NMHSRP, 2009). The checklist includes: traditional components, such as risk assessment and management; legal and ethical aspects of seclusion and restraint; therapeutic strategies; therapeutic communication and emergency response. It recommends that training:

- should be part of an organisational approach to reducing seclusion
- needs to examine what it means to co-create and maintain a therapeutic workplace culture, including sensory modulation and comfort rooms
- should include service user, carer[4] and staff perspectives as a focus, including recovery, person-centred care and trauma-informed care.

There were 11 NMHSRP (also called beacon) demonstration sites across eight states that worked to develop and implement best practice. The project concluded on 30 June 2009.

Work towards seclusion and restraint reduction in public mental health facilities passed to state and territory jurisdictions after June 2009). Some states, such as Queensland, which recognised the need for a state-wide training programme (Queensland Health, 2008), reflect the content and intent of the project checklist in government policy. While some state training guidelines exist for the reduction of workplace violence, as yet no state or national standards that reflect the recommendations of the national project are in place.

[4] The term 'family' rather than 'carer' is preferred by New Zealand service users, their families and whanau.

New Zealand

There are no national guidelines for de-escalation and restraint training in New Zealand, and each of the 20 DHBs has its own policy on training. Some DHBs conduct their own training, while others will contract independent training providers, and training objectives can vary considerably. This type of clinician training in New Zealand is most often referred to as 'calming and restraint' or, less commonly, 'safe practice, effective communication' training. More recent programmes have begun to introduce training approaches that examine the wider issues that may cause service users to become distressed, such as ward milieu and staff practices.

The government has specified an intention to limit, over time, the use of seclusion and restraint of service users (Ministry of Health, 2010). The intent of the Health and Disability Services Standards is to reduce the use of restraint in all its forms and to encourage the use of least-restrictive practice. There are minimum specifications for restraint training (NZS 8134.2) which includes prevention and de-escalation techniques.

The recent focus on reduction and elimination of seclusion and restraint indicates there is a need for a national direction, including guidance on de-escalation and restraint training. O'Hagan (2008) identified a number of factors contributing to best practice in seclusion and restraint minimisation efforts, which included a national direction that supports such efforts. This work draws on the US national training packages developed by the Substance Abuse and Mental Health Services Administration (SAMHSA) and the National Association of State Mental Health Programme Directors (NASMHPD), and their approach is recommended for use by district health boards (O'Hagan, 2008).

Let's get real

New Zealand's national *Let's get real* workforce development framework describes the essential knowledge, skills and attitudes needed for delivering effective mental health and addiction services. It provides a constructive context for identifying training options aiming to increase the safety of service users and staff, improve therapeutic outcomes, and reduce the use of seclusion and restraint. This framework was developed and launched by the Ministry of Health in 2008, with the aim of ensuring a consistent level of quality in service delivery, supporting professional competencies and improving education and training in the mental health sector. *Let's get real* promotes values-based practice, which requires an awareness of the ways in which values and attitudes inform a person's work.

The *Let's get real* framework includes seven Real Skills – Working with service users, Working with Maori, Working with families/whanau, Working within communities, Challenging stigma and discrimination, Law, policy and practice, and Professional and personal development. The Real Skills allow workers to engage meaningfully and work in partnership with service users, promoting service user strengths to support recovery. Effective communication skills are essential, and staff learn to understand and mitigate the physical, social and emotional effects of trauma and abuse on people's lives. This kind of trauma-informed practice recognises that past trauma can be a trigger for challenging or aggressive behaviours from some service users.

Table one summarises the national initiatives in the countries reviewed, along with the intent and practices that stem from these.

Table 1: Summary of New Zealand and international context

Country	Key initiatives	Intent and practice
New Zealand	Ministry of Health (2010) District health boards *Let's get real* (MoH 2008) Health and Disability Services Standards	• New Zealand Government intends to limit use of seclusion and restraint over time • Each district health board has its own policy on training • Some provide their own training; others contract training to external sources • Training objectives differ between health boards, ranging from those with a predominantly safety focus to those aiming to reduce or eliminate restraint and seclusion • National workforce development framework for mental health and addiction • Standards aim to reduce restraint and encourage least restrictive practice • NZS 8134.2 includes minimum specifications for restraint training, which include prevention and de-escalation techniques
Australia	National Mental Health Seclusion and Restraint Project (mid-2007 to mid-2009)	• Collaboration between federal, state and territorial governments • The project had 11 sites and aimed to reduce and, where possible, eliminate the use of seclusion and restraint • Resulted in a suite of national documents, including a checklist of core training requirements • The project's work has now passed to state and territory jurisdictions • There are no state or national standards that reflect the project's recommendations
United Kingdom	National Institute for Clinical Excellence clinical guideline 25 on violence (NICE 2005)	• Clinicians are expected to adhere to guideline • Includes training component, with goal of learning the short-term management of disturbed or violent behaviour, and states that training should be audited • There is evidence that services and professionals are complying with the guideline. However, there is still no clear consensus about what should be included in training • There are no national training guidelines for physical intervention in the UK
United States	State level (state-wide) Federal regulations governing restraint and seclusion (Centers for Medicaire & Medicaid Service, 1999) National level (non-mandated)	• Two states (Pennsylvania and Massachusetts) have explicit goals of reduction or elimination of restraint and seclusion • Medicare and Medicaid have recently instituted basic training requirements in applying restraints, implementing seclusion and monitoring, carrying out assessments, and providing care for a patient in restraint or seclusion (Centers for Medicaire & Medicaid Service, 2006) • Regulation states that restraint and seclusion should not be used for punishment, and should only be used once other interventions fail • There are no mandated uniform, national, minimum training standards for the reduction of behaviours of concern or the use of seclusion and restraint • Some US states have basic requirements for training in behaviours of concern • The American Psychiatric Nurses Association has guidelines for training and practice in the prevention and use of seclusion and restraint (American Psychiatric Nurses Association, 2007) • Two key national bodies (the Substance Abuse and Mental Health Services Administration, and the National Association of State Mental Health Programme Directors) promote national training standards, with the intent of reducing or eliminating seclusion and restraint.

Training & evaluation

A broad range and diversity of training content and approaches are apparent in the literature, and this diversity is reflected in studies that examine training programmes. The variety of the material reflects the broad diversity of techniques and philosophies that exist both between and within countries. In the UK, this variety has been seen as problematic, with both Gournay (2002) and Dickens et al. (2009) critiquing training courses in terms of their length and content, and the general lack of identified core competencies for staff who work with distressed persons. A recurring theme supports the development of national curricula and guidelines (Dickens et al. 2009).

Evaluations indicate that the safety of service users and staff is often the main concern of these programmes, which cover a wide array of aspects surrounding workplace risk, such as theory, prevention, interaction and post-incident procedures (HSAC, 1997). In recent years efforts have been made to standardise training and develop comprehensive aggression management programmes.

Despite these efforts, great diversity remains apparent in the approaches that are used on mental health wards. Studies that examine training programmes focus on different aspects, use different methods, and evaluate outcomes differently. This makes identifying long-term trends and comparisons difficult.

The following section summarises research literature evaluating the effectiveness of de-escalation and restraint training in the mental health sector.

Evidence for effective training

Drake et al. (2001) contend that despite extensive academic knowledge about effective mental health practices for persons with severe mental illness, routine mental health programmes often do not provide service users with treatment that is based on good evidence. In the case of staff training, knowledge about how to deliver good quality training remains patchy and is often inconclusive. Some studies report even more violent incidents after staff received training, than before[5] (Daffern & Howells, 2001; Sjöström, Eder, Malm, & Beskow, 2001). However, there seems to be a consensus in the literature that training has a positive effect (Calabro, Mackey, & Williams, 2002; Deans 2004; Forster, Cavness, & Phelps, 1999; Ilkiw-Lavalle, Grenyer, & Graham, 2002; Martin, 1995; Whittington & Wykes, 1996), and many researchers and authorities clearly support training (Beech & Leather, 2006). Yet, this general support masks the methodological differences of the studies and the variety of training focus and content. As Beech and Leather (2006: 33) pointed out, "appropriate staff training is still not offered universally or consistently" and effectiveness can be measured in many different ways. Thus, depending on their particular methodology, studies produce different types of evidence with uneven validity.

Some studies focus on indirect measures to evaluate effectiveness of training, such as the number of violent incidents before and after staff received training, the rate of intervention use such as seclusion and restraint, and injury rates. Other studies concentrate on direct measures, such as knowledge gain and confidence of staff to deal with service user aggression, as well as competence in physical interventions (Allen, 2001). However, these studies mainly rely on participants' self-reports and often

[5] The increase in violent incidents that these studies found could indicate a greater readiness of staff to report incidents due to increased sensitivity, or could be due to study design.

do not measure concrete learning outcomes. Studies generally review specific training courses, which are not standardised and are offered in varying settings. Overall, there is a lack of randomised clinical trials, and many studies provide only reduced research designs (for example, pre-post-test studies without control groups). Moreover, the underlying principles and assumptions of the training guidelines are not explicit. Duxbury's (2002) and Farrell, Shafiei and Salmon's (2010) critical examination of these unspoken rationales remain rare exceptions, and will be discussed later in this section.

The lack of consistency does not only complicate cross-comparisons between training programmes, but is also indicative of the irregular overall provision of training, and the minimal regulation that trainers and training content are currently subjected to (Beech & Leather 2003; United Kingdom Central Council for Nursing Midwifery and Health Visiting, 2002; Wright et al. 2005). A report by the British National Audit Office (NAO, 2003) argued that the safety and usefulness of taught techniques was insufficiently examined. The United Kingdom Central Council for Nurses, Midwives and Health Visitors also bemoaned the lack of reliable information "about the background and preparation of trainers or details of training that was offered" (Beech & Leather, 2006: 34).

Similarly, a UK survey conducted by the Industrial Relations Services (2000) on the training offered by 105 National Health Service trusts[6] found that the great majority of responding trusts were offering some form of training (82 per cent provided awareness training, 80 per cent break-away training, 73 per cent restraint training, and 25 per cent self-defence techniques), but training provision varied for different staff groups. According to the National Audit Office (2003), the training in mental health trusts focused mainly on defusing situations (70 per cent), and break-away (79 per cent) and restraint techniques (73 per cent), and little emphasis was given to training in situation risk-assessment (50 per cent) and customer care (36 per cent). Given the extraordinarily high violence rates in the mental health trusts, the National Audit Office (2003) criticised this as a failure to provide vital preventative training. This is an example of the overwhelmingly reactive, rather than preventative, focus of current training measures, which authors like Duxbury (2002) and Farrell et al. (2010) have critiqued as problematic. However, as discussed at the policy level earlier, there are now some attempts to promote prevention over purely reactive approaches.

Systematic outcome evaluation seems to be lacking for many training programmes and is frequently mentioned as a shortfall in the literature (NICE, 2005; Nau, Halfens, Needham, & Dassen, 2010; Wright et al., 2005). Beech and Leather (2006: 38) pointed out that, despite the fact that training evaluation models are readily available, evaluation often only receives a low priority and is usually limited to "measuring trainee reactions" rather than concrete outcomes. In a similar vein, Nau and colleagues (2010) argued that even though "participants often report success and subjective benefits after training … the more critical issues of whether learning outcomes are actually attained and whether the training indeed influences practice remains unclear". Furthermore, the NICE guidelines (2005: 23) state that "at present, very few of the training programmes are based on evidence of either the effectiveness of training or the benefits perceived by staff and/or service users".

A British survey cited in Bee and Bee (1994) found that only 15 per cent of organisations planned an evaluation of training and a small minority of 2.5 per cent were undertaking cost-benefit analyses.

[6] Health care in England and Wales is organised through a system of health care trusts that provide services to the population. For example, there are 58 mental health trusts in England, which provide health and social care services for people with mental health problems. Other trusts include acute trusts, ambulance trusts, care trusts, foundation trusts, primary care trusts, strategic health authorities and special health authorities. See www.nhs.uk/NHSEngland/thenhs/about/Pages/authoritiesandtrusts.aspx for more information.

Some of the problems identified include "difficulty in establishing measurable results, lack of time, lack of knowledge of evaluation techniques, unclear training objectives, and lack of senior management support" (Beech & Leather, 2006: 38). Reliance on participants' self-reports is also mentioned as an issue in some studies that aim to evaluate training courses (Doughty, 2005). Despite these limitations, some conclusions about training effectiveness can be derived from the literature.

The following section describes underlying rationales that usually guide training courses. Several key studies that examine and evaluate staff training in terms of its reported effectiveness are then discussed, in relation to the types of evaluation which the training received: The evidence is often very limited, since many studies do not describe the training content in great length. However, this seems to be the best strategy to extrapolate information on the effectiveness and provision of de-escalation and restraint training for mental health staff.

Training rationale and best practice

Numerous authors and authorities have developed general indicators for what good training should entail, such as the guidelines developed by the Royal College of Psychiatrists (1998), which cover "methods of anticipating, de-escalating or coping with violent behaviour, debriefing and restraint for staff working in mental health services" (Beech & Leather, 2006: 35).

In the context of community work, Beale et al. (1998: 105) provide the following list of indicators for good training:

- training emphasises prevention, calming and negotiating skills rather than confrontation
- modular programmes progress from basic customer care and dealing with difficult clients, "through to full control and restraint training"
- includes material on understanding causes of aggression, reducing risks, anticipating violence occurring, resolving conflict and managing the aftermath of incidents
- teaches physical break-away skills within the context of when they are and are not appropriate
- emphasises staff controlling their own feelings
- provides understanding of normal and abnormal post-trauma reactions
- is familiar with local arrangements and policies.

This list entails a great variety of skills and attitudes, ranging from de-escalation and prevention to more traditional methods like physical restraint. Most training packages described in the literature contain elements from this list. Duxbury's (2002) and Farrell et al.'s (2010) analysis of approaches to managing aggression and violence in mental health wards is helpful in understanding this. Both sets of authors identified three models that are currently employed by researchers and health professionals to explain the causes of service user aggression and violence: the internal model, the external model and the situational model.

The internal model focuses on individual variables that are thought to cause aggression in service users, such as the "impact of mental illness, age or gender of aggressor as demographic correlates of aggression" (Duxbury 2002: 326), as well as on intoxication and drug abuse. This model is the most prevalent, and much of the research done to predict an individual service user's aggression directly or indirectly adopts this rationale. Critics question the proposed association between mental illness and violence, and argue that the predictive value of these variables is limited. They maintain that the

matter is more complex than the common stereotype of aggressors being "young, male schizophrenics (sic), with a previous history of violence and substance abuse" (Duxbury, 2002: 327) suggests. So despite the prevalence of this model, the assumptions upon which it is based require further investigation.

In contrast to the internal model, the external model emphasises the importance of environmental and organisational factors in causing aggression. Commonly cited factors are "building deficits such as limited space or provisions for privacy, overcrowding, hospital shifts, the timing of assaults, raised temperature and additional poor environmental provisions" (Ibid). Critics, however, argue that these studies provide inconclusive evidence. But there is an array of other external factors that have been reported to have some influence on incidents of aggression and violence. These include "staff gender, experience, training and grade" (Ibid), which influence the nature of interaction between staff and service users. Inadequate staff training and organisational problems, such as a low staff-patient ratio and an overuse of temporary staff, are commonly identified as problematic contributing factors.

Finally, the situational model seeks to integrate these two seemingly opposite perspectives. It is increasingly argued that the best explanatory results are achieved when internal and external factors are combined in a multi-dimensional model. The argument is made that in many instances multiple factors contribute to negative staff-service user relationships, and that these interacting variants have more predictive power for negative or positive relationships between staff and service users, than internal or external factors alone. However, multi-dimensional approaches are complex research endeavours. They are methodologically more difficult to evaluate than measuring the fixed variables of the internal model. Also, it is not clear which individual model weighs more heavily in the overall explanation. The difficulties surrounding the situational model might contribute to the ongoing popularity of the internal model, when more encompassing examinations are needed.

In her analysis of how service users and staff view aggression and violence, Duxbury (2002) found that both parties believed themselves to be victims of aggression, but for different reasons. Service users tended to support the external and situational model, explaining incidents of violence with staff interactions and restrictive regimes. Nursing staff more commonly referred to the internal model when explaining the causes of aggression, identifying problematic types of illnesses and service users. While service users often felt they were at the mercy of the controlling style of nursing staff and their restrictive environment, nurses felt that they were not only victims of the aggression of service users, but also of an inadequate organisation. Duxbury considers that this dynamic leads to a series of 'reactive aggressive incidents', where reactions from service users are countered by staff with reactive crisis management approaches to solve the escalating situation. Anecdotal evidence in NZ suggests that the reverse is also possible, where aggressive reactions from staff leave the service user with few options.

In summary, the dominance of the internal model is problematic because it views aggression as an inherent individual trait that is isolated from other factors. This perpetuates the use of interventions that are based on biomedical principles and traditionally seek to exert control over the aggressor (Duxbury, 2002). Duxbury concludes that many current training courses still follow the internal model and continue to focus on traditional interventions by teaching methods such as seclusion and restraint, break-away techniques and rapid tranquilisation. Overall, the response to service user aggression in mental health settings continues to be reactive, viewing aggression and violence as something that needs to be managed when it occurs, rather than addressing it therapeutically and preventatively. This seems to be the case even when new methods such as communication are

promoted and encouraged in training. Here, effective communication skills are advocated over physical intervention. The focus tends to remain on reaction rather than on prevention when practitioners are encouraged to wait until they are confronted with aggression before they intervene.

Duxbury's critical examination provides some useful insights into common approaches to aggression in health care institutions. It becomes obvious that current models on causation are too narrow and do not provide satisfactory strategies for the successful prevention of aggression and violence in these settings. This is partly due to the focus on the internal factors that might account for aggression, rather than taking external and organisational factors more strongly into consideration. Farrell et al. (2010) have come to similar conclusions, and added a new perspective to staff training by introducing an educational model that emphasises external and organisational factors, as well as issues related to particular service users. This course encourages participants to attempt to understand their own values, emotional processes and behavioural skills, and the situational context in which behaviours occur.

Farrell et al.'s (2010) programme appears promising, although the effectiveness of it has not been analysed. An understanding of the relationship between training and improved clinical outcomes is vital. The following section highlights key studies that have evaluated the outcomes of training.

Studies on training effectiveness

As outlined above, aggression management training usually relies on a mix of techniques that involve effective communication and physical interventions. However, the outcomes of these programmes are often quite different. Very few programmes solely employ psychological techniques. In this section, the literature is clustered according to the general type of training programme and the type of evaluation it received: (1) aggression management training with indirect outcome evaluation; (2) aggression management training with direct outcome evaluation; (3) aggression management training with indirect and direct outcome evaluation; and (4) training programmes focusing on psychological techniques and their outcomes. Organising the literature in this way will help us draw some conclusions about the effectiveness of these programmes.

Training with indirect outcome evaluation

Some studies examined the effect of aggression management training on indirect variables, such as injury rates and injury-related sick leave, the number of aggressive incidents, and rates of coercive measure use before and after the training.

Carmel and Hunter (1991) compared frequencies of violent incidents on wards where the majority of staff had attended training in violence management, with wards where significantly less staff had received the training. The training consisted of 16 hours of initial orientation, and six to eight hours of refresher training every two years. The study only gives minimal information on the training content. It is stated that the training focused on interpersonal skills and "didactic and practical instruction in the management of violent patients" (Doughty, 2005: 13). Carmel and Hunter (1991) did not find any differences in the number of incidents in the wards, and could not establish a relationship between staff compliance in training and the incidents of aggression. However, the staff injury rate from service user violence was almost three times higher in the wards where less staff had received training, compared to the wards with high compliance.

Similarly, the study undertaken by Sjöström et al. (2001) in Sweden could not confirm their tested hypotheses. The evaluated training course on aggression management did not show significant effects on the measured outcomes of "reduction of aggressive behaviour" and "injury-related sick leave". The 35-hour course aimed to decrease the occurrence and impact of aggression by increasing staff competence and knowledge about aggression. This included not only "understanding the aggressive process and how aggression arises" and being able to anticipate aggressive incidents, but also being able to self-defend using psychological and physical techniques, and to "routinely follow up assaults to gain experience", in order to reduce the possibility of future incidents (Sjöström et al. 2001: 460). The authors noted that the drastic organisational changes that were introduced at the same time as the training courses might have overshadowed the potentially positive effect of the training. Another possibility would be that the training material was not optimal, and that other techniques that "aim at improving psychiatric inpatients' self-control" (Ibid: 463) may need to be developed and added to the programme.

Like Sjöström et al. (2001), Needham et al. (2004) did not find a significant reduction of aggressive incidents following the introduction of two interventions: a tool to assess and predict the risk of aggressive behaviour in individual service users, and a 35-hour training course on aggression management. The aggression management training contained multiple elements, covering "the nature and prevalence of aggression, violence and sexual harassment, the use of aggression scales, preventive measures and strategies, de-escalation techniques, post-incident care and support, ethical aspects of violence management, and safety management"(Ibid: 597). Another component of the course focused on teaching physical interventions such as "holding methods, breakaway techniques, and control and restraint" (Ibid: 597). Even though rates of aggressive incidents remained unchanged after the training, rates of coercive measures did significantly decline. There was also a decrease in the percentage of days with attacks and of days when coercive measures were used.

A British study by Martin (1995) reported on the development and implementation of an aggression management programme that aimed to improve the safety of staff when confronted with service user aggression. A clear focus on staff safety guided the development of the training content. This entailed a mandatory aggression management workshop covering theoretical and practical aspects and a video on verbal de-escalation techniques. The effectiveness of the programme was monitored through a competence assessment of all staff within two months after the training, in which learned skills had to be demonstrated, and an annual certification of staff in each of the three areas.

The evaluation of the training effect included data collection on the number of aggressive incidents, level of aggression, type of injury and related costs, as well as missed work days. The results showed an overall increase in the number of separate aggressive incidents in the two years after the programme's implementation, but a decrease in the severity of aggression overall. The severity of aggression-related staff injuries decreased after the implementation, along with the time missed from work and cost to the system.

In summary, the relationship between staff training and rates of aggression remains unclear in the above mentioned studies. The studies produced somewhat limited evidence for a positive impact of the training courses. Even though injury rates and coercive measure use could often be reduced, no evidence for a reductive effect on rates of aggressive incidents was found. This indicates that the training might have increased the ability of staff to respond to aggressive incidents, either through using methods other than physical interventions that reduced the likelihood of getting hurt, or by applying restraint in a different way. However, the studies did not theorise the possible causes for

aggression. The evaluated training programmes were similar in that they employed a variety of physical and psychological techniques to manage aggression. This shows the continued prevalence of the internal model as the underlying framework, combined with some elements of the situational model when staff interactions are taken into account.

Training with direct outcome evaluation

Several studies that put considerable emphasis on direct outcome evaluation of the training courses were located. Overall, these studies showed mixed results, with some showing positive effects from training on direct outcomes, and others showing no change. Some of the latter results (discussed at the end of this section) may be attributed to methodological issues. Nevertheless, the absence of change to outcomes means that care needs to be taken with any course design and subsequent evaluation.

One study (Phillips & Rudestam, 1995) examined outcomes from a comparison study, where groups were given either (1) didactic training in a range of issues, including theoretical understandings of aggression, communication techniques, intervention strategies, legal issues and issues related to the institution, along with a range of physical techniques, or (2) the didactic training only. The former group showed more competence in intervention, were less aggressive and less fearful, and valued "nonviolent" skills significantly more.

Calabro et al. (2002: 3) provided an evaluation of staff members' "knowledge, attitude, self-efficacy, and behavioral intention" to use techniques learnt in two commercial training aggression management programmes – Nonviolent Crisis Intervention, and Handle with Care. While the Nonviolent Crisis Intervention programme focused on measures to defuse potentially violent incidents and to prevent assaults, the Handle with Care programme focused on the application of seclusion and restraint and related policies and procedures. The methods taught in the Nonviolent Crisis Intervention course included identifying verbal and non-verbal behaviour, de-escalation techniques and strategies to manage fear and anxiety in crisis situations. Teaching methods consisted of a participative lecture, role play, a study manual to enable self-directed study and a post programme test. The course content of Handle with Care included a lecture about team dynamics for managing aggressive behaviour and about specific hospital policies and procedures for physical interventions. The results of the evaluation showed a significant short-term improvement in the measured variables. The authors concluded that the training positively influenced staff members' intentions to use the taught "techniques for controlling and preventing" (ibid:12) service user violence. It was also reported that during the 4-month period that the programme was implemented, the injury rate involving assaults during restraints decreased to a historical low. However, the previous level was not mentioned.

Two programmes were developed in the Australian territory of New South Wales, where training has become mandatory for mental health staff (Ilkiw-Lavalle et al., 2002). While both studies provide a good description of the training content, only direct measures and self-reports were used to evaluate outcomes. This provides no evidence for how effective these programmes are in reducing aggression and injuries. However, some useful details can be derived about the training content desired by staff working in mental health settings.

Ilkiw-Lavalle et al. (2002) explored the knowledge acquisition by staff attending a two-day intensive aggression management training programme, called INTACT, which is offered in the Illawarra region

of New South Wales. The course content included characteristics of aggression, prediction of aggression, managing aggression, principles of reporting incidents, and self-care following aggression, as well as legal issues. This programme differed from the previous ones in that it had a clear focus on understanding aggression, as a measure of prevention. This included not only service user aggression, and the triggers to this behaviour, but also the expectation that staff members understand themselves and their own behavioural responses to aggression. Post-crisis support for service users and staff members was also an important element of the curriculum. Teaching methods included group work, role plays and the practice of self-defence techniques. The study found that all participants showed significant improvements of their knowledge scores after the training, but there were differences in knowledge acquisition; previously trained staff benefitted less from the training than those staff members without previous training.

Overall, the participants rated the training course positively. The feedback from more experienced participants highlighted the need for shorter, more frequent refresher training from a trainer on the ward. This should focus on more advanced skills in working with service users who present with difficult-to-manage behaviours, rather than refreshing general knowledge about aggression management. However, the previously untrained participants rated the training course as highly suitable.

Some of the authors (Grenyer et al., 2004) who worked on the INTACT programme also developed the Safer at Work programme, which is now commonly used in New South Wales. This training programme was developed as a response to several prominent incidents that revealed the need for "uniform aggression and violence minimisation training" for Australian health services (Ibid: 805).

The programme was tested in a pilot study sampling 15 experienced aggression minimisation trainers who completed and evaluated a two-day train-the-trainer programme and 48 experienced health staff who completed the four training modules of the programme. These modules add up to 22 hours of training and address the following themes and issues: general aggression and violence minimisation competencies (modules one and four, 10 hours); the specific needs of staff working in high-risk environments (module two, 8 hours); and a module for workplace managers and supervisors (module three, 4 hours). Module four consisted of two hours of refresher training. The full-day modules could be broken into half-day or other flexible delivery components, to facilitate training delivery in settings where the absence of staff for a full day would be problematic. The training material received positive feedback and included PowerPoint slides, detailed answers to trainer-led questions, instruction in skills-based exercises, and additional training and website resources, as well as facilitator and participant manuals.

Overall, the 15 experienced aggression minimisation trainers evaluated the programme favourably. The trained staff also indicated satisfaction with the programme and reported an increase in knowledge and skills, as well as significantly improved attitudes and perceived confidence in dealing with service users who show aggression. The results also suggested that perceived confidence in dealing with aggressive incidents was proportionate to the number of modules that staff completed.

Some studies did not show any changes to outcomes from training. Bowers, Flood, Brennan, and Allan (2008) replicated an early study that had positive results in reducing conflict and containment in practice (Bowers, Brennan, Flood, Lipang, & Oladapo, 2006). The latter study did show a reduction in both outcomes, but a similar decrease was found in the control group who had not received training. While this decrease is a desirable outcome, it is not possible to know if this was caused by the training. It is possible that the emphasis on the outcomes focussed on caused a positive Hawthorne effect, with

clinician practice in the control group positively affected by knowledge of the existence of the training, or the practices of their colleagues. Either way, Bowers et al. (2008) suggested the need for a further study with a larger sample.

A study to examine attitudes towards aggression and the management of aggression similarly showed that training did not make a change (Hahn, Needham, Abderhalden, Duxbury, & Halfens, 2006). However, the authors suggested that this result may have been caused by the short intermission between training and the measurement of change, or by a problem with the instrument that they used to measure change. Although the issue of whether the training was effective is unclear, it does give a pertinent reminder of the need to allow for change to occur in practice before evaluation, and the need for standardised assessment.

A brief (four-hour) workshop to look at theories of de-escalation, communication, break-away techniques, and restraint practices (Hurlebaus & Link, 1997) showed a significant increase in clinicians' knowledge, but no change in their sense of safety or confidence. This is perhaps not surprising, given the subsequent studies and theoretical positioning which suggest that examining internal factors of aggression without considering clinicians' attitudes and environmental conditions is unlikely to bring about positive behaviour change.

In summary, the study by Calabro et al. (2002) offers a useful example of a methodologically sound measurement of the impact that training had on participants' knowledge, attitude, self-efficacy and planned behaviour. However, there are still some methodological limitations. Since the participants attended two different training programmes, it is not clearly distinguishable which training was more effective. This is a major weakness, because the training content focused either purely on de-escalation or solely on physical intervention. Knowing which type of training had the greater effect would have added a lot of valuable information to the study. Additionally, there was no direct measure of the incidence of violence before the training implementation. The evidence for training effectiveness therefore remains limited.

The two Australian studies are useful because they provide information about details that most studies do not mention: one study entailed a more detailed description of the training modules, the other provided information on staff feedback about the training programmes. Useful details include the desire for "more regular, specialist on-ward skills training" that covers specific issues, rather than merely providing generalist information on aggression management (Ilkiw-Lavalle et al 2002: 237). Untrained staff found these generalist courses useful, but more experienced staff expressed a need for more detailed attention to complex issues. It might therefore be useful to offer basic and advanced-level courses, which are more tailored to the needs and experience of the participants. However, the influence of these training programmes on indirect outcome measures, such as injury rates and the number of aggressive incidents, again remained unexamined.

It is not possible to definitively state an overall evidence-based outcome from these studies, given the mixed results (either a positive change or no change). The majority of the studies do show a change, but most are simple before-and-after studies with no control group. As Johnson (2010: 193) notes, "without the benefit of a comparison group, one…cannot be sure which aspect of the [training] program was associated with the change, or whether the program was instrumental in the change at all". However, the overall evidence is positive and provides some basis for the design of programmes and their content. The studies also offer useful reminders of the need for robust and standardised evaluation of programmes' effectiveness, and are discussed later in this document.

Training with indirect and direct outcome evaluation

The following study is a rare example of a training evaluation that used direct and indirect outcome measures. The study found that the training course had a positive influence, reporting reductions in injury rates and coercive measure use. But like the studies before, it did not provide information on the number of aggressive incidents before and after implementation.

Compared to the previous studies, the training programme reviewed by Forster et al. (1999) had a slightly different approach. The course appears to include internal and external theories of aggressive behaviour, with the three main goals of the mandatory full-day Prevention of Assaultive Behaviour course including: increasing awareness of the factors leading to aggression and violence; promoting knowledge and use of less restrictive measures; and increasing safe staff reactions to violence. The facilitator of the programme is described as a "charismatic leader with several years of teaching experience" on this topic, who emphasised a "hands-on approach". In contrast to other programmes, this meant not only the practice of self-defence and "optimal containment' techniques" (ibid: 270), but also that each staff member experienced five-point restraints first hand in the training session. When asked a year after the course, many respondents cited this as a pivotal experience in their decisions about whether or not to restrain an agitated service user. The demonstration of restraint on training participants seems to be a useful teaching method and should be noted for the development of future programmes. Further topics covered by the course included a discussion of inappropriate use of restraint due to convenience or irritation, and role plays of verbal interventions that may be used as alternatives to physical restraint.

Overall, the training showed positive results. One year after the programme, the annual rate of restraint had decreased overall by 13.8 per cent, and the average duration of seclusion or restraint episodes was reduced by more than half (from 13.9 hours/episode to 6.3 hours/episode). Additionally, staff injuries were reduced by 18.8 per cent, from 48 to 39 injuries. The training evaluation also included a follow-up one year after the course. Participants were asked to provide a written evaluation of the programme's influence on their practice. This evaluation showed that participants were more confident and less fearful to deal with distressed service users. They also reported that they had a clearer understanding of appropriate interventions, as well as of resource management, and how to work as a team. The authors concluded that the training improved staff safety by reducing the occurrence of incidents requiring physical interventions; this led to lower injury rates, less work days missed and reduced costs.

In summary, the above programme is unique in its approach to physical interventions training. In contrast to other training descriptions, it clearly addressed the problematic side of seclusion and restraint, and made participants experience a five-point restraint themselves. Thus, even though it covered conventional methods, such as self-defence and restraint, its focus remained preventative and aimed at reducing the use of coercive measures by increasing participants' understanding of aggressive service users. The training reduced coercive measure use and injury rates, and the follow-up period was longer than in most studies. However, no data was provided on the number of aggressive incidents before and after the training.

Training programmes focusing on psychological techniques and their outcomes

A general weakness of all studies and training programmes discussed so far is that they did not seem to take a service user perspective into account. Other research suggests that a service user perspective leads to more effective engagement and better recovery outcomes for service users (Te Pou, 2011a). In line with Duxbury's (2002) and Farrell et al.'s (2010) critiques, the focus of the training programmes reviewed so far remained one-sided, reactive and informed by the principles of the internal model. Most programmes drew on a mix of de-escalation techniques and physical interventions, and some programmes still taught only physical interventions. As discussed above, the programme evaluations did not always show positive results for these training measures and the outcomes were often insufficiently measured.

It appears that most programme developers and researchers are mainly concerned with finding ways to manage aggression in a manner that is safer for staff. This is an important aim. However, this perspective is incomplete because it implies that aggressive behaviour by service users is a given. It does not explore underlying causes such as situational factors, or how such behaviour can be prevented and treated therapeutically. Managing aggression is treating the symptoms rather than the cause. The following studies address this gap by focussing more on collaborative and preventative approaches to service user aggression.

A key British study (Whittington & Wykes, 1996) evaluated the effectiveness of a one-day training programme, which focused solely on psychological techniques to manage aggression. The longitudinal study compared 47 nurses attending the seven-hour training day with a control group of 108 non-attenders. The training aimed to improve the verbal and non-verbal skills of staff working with distressed service users, and consisted of two components: prevention of imminent violence, and overcoming the possible psychological consequences of assault. This included risk assessment and techniques for defusing situations, as well as post-assault management, legal issues and the nature of traumatic events. The theoretical basis of the course was drawn from leading cognitive theory about stress and coping, expressed in a "cyclical model of violence" (Whittington & Wykes, 1996: 258).

The training focused on the verbal and non-verbal behaviour of the nurse before and after an assault. The conceptual novelty was to understand these as coping strategies initiated by the nurse in order to manage a stressful demand from a service user. No physical interventions were taught on the course. Teaching methods included role play and relaxation techniques. The results showed that the overall rate of assaults on staff on wards taking part in the study was 31 per cent lower in the month after the implementation of the training. In wards where the majority of staff attended the training, the frequency of assault fell by more than two-thirds. Wards with low training attendance reported an increase in assaults by over a half. The authors concluded that there are some measurable, objective benefits from implementing a training package that emphasises psychological techniques. These might even be increased if the training was expanded to include follow-up sessions and more in-depth training.

This study shows that psychological techniques can be effective in reducing aggressive incidents. Unfortunately, there is no other study that replicated these results. However, a few smaller studies can be named that explored the effects of different programmes, such as restraint reduction programmes (Jonikas et al, 2004; Crosland et al., 2008), communication skills training (Smoot & Gonzales, 1995), and a social-learning programme (Corrigan et al., 1995). These studies generally showed reductions in coercive measure use and improved service user outcomes. In all four studies, the authors concluded

that comprehensive communication training and collaborative approaches that focus on staff and service users produce cost-effective and measurable improvements for all involved. These approaches are fundamentally different to the training content in the aggression management courses that were reviewed earlier.

Jonikas et al. (2004) examined a programme to reduce the use of physical restraint in three psychiatric units of a university hospital in the US. The two-tiered programme included interviews with service users to determine their stress triggers and personal crisis management strategies. In a second step, staff members were trained in crisis de-escalation and nonviolent intervention methods by watching a 90-minute training video and studying a comprehensive training manual[7]. The results showed a significant decline in restraint rates in the first half of the year after implementation of the programme, and remained low on all three units. The authors concluded that "comprehensive staff training that encourages adaptive patient behaviours and nonviolent staff intervention" (Ibid: 818) is a useful way to reduce the use of physical restraint in psychiatric units.

Smoot and Gonzales (1995: 819) evaluated a staff communication training programme that aimed to improve "patient management skills and relieve staff stress" by teaching staff empathic communication skills. The study is one of very few that undertook a cost-benefit analysis. The findings suggest that these measures may reduce the use of restraint, and the authors concluded that "training in empathic communication skills for direct care staff is a promising proactive, cost-effective approach to coping with staff stress and turnover and may also improve patient outcomes" (ibid).

Corrigan et al. (1995) reached a similar conclusion when evaluating an Interactive Staff Training programme, designed to help staff members plan and implement social-learning programmes for severely mentally ill inpatients. In the study, a token economy was implemented, together with social skills training. The results showed a 41 per cent decrease in restraints and a 12.6 per cent decrease in aggression-related incidents after the token economy began, and another decrease of 14.1 per cent in aggression-related incidents after adding the social skills programme. The authors concluded that interactive staff training may lead to a greater use of social-learning programmes in psychiatric wards, where such treatment measures are still uncommon. It is also thought that these measures improve the ward atmosphere, as well as leading to more enduring benefits for service users in rehabilitation programmes.

In 2002, a training curriculum designed to reduce seclusion and restraint (National Association of State Mental Health Programme Directors, 2006) was piloted in 26 teams from 25 states in the US. The curriculum included six core strategies, including the use of seclusion and restraint prevention tools, and full inclusion of service users and families. It also includes an examination of erroneous assumptions about seclusion and restraint, the impact of trauma-experiences, and staff and service user perspectives on seclusion and restraint. Eight states provided data from before and after the staff seclusion and restraint training. A large majority of these hospitals significantly reduced the number of seclusion events, the number of service users put into seclusion, and the total seclusion hours (Huckshorn, 2004).

In summary, the studies discussed in this section are somewhat different from the aggression management programmes discussed before. Their focus lies on restraint reduction and communicative intervention methods. Interestingly, these studies reported decreases in aggressive

[7] The non-violent crisis intervention component of the training programme was developed by CPI Training Institute in the US. There is also a branch of the institute in the UK.

incidents, along with reductions in coercive measure use, as well as improved service user outcomes. Many aggression management courses did not report such successful outcomes. There were methodological differences in outcome measurement, which might be due to the different focus of these programmes. However, it seems that these collaborative programmes are more effective in reducing aggressive incidents and restraint use, and are more comprehensive than those that focus on the management of aggression alone.

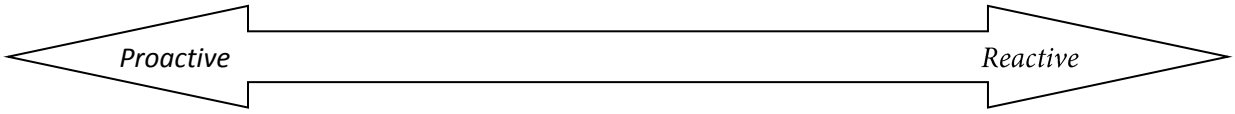
Conclusion

This literature review draws on recent studies researching the effectiveness of different approaches to managing challenging behaviour in clinical settings. It became apparent that some studies found stronger evidence for the effectiveness of the examined training programmes than others. However, the outcome measures that were used were often limited to injury rates and coercive measure use, or trainees' self-reported levels of confidence, and usually did not provide information on the relationship between staff training and aggressive incidents. It also became apparent that there is a great deal of diversity in training provision and content, and a lack of training evaluation, despite the efforts of some countries to develop guidelines to support consistent training of staff.

We located one article that summarised literature about the effectiveness of training (Livingston, Verdun-Jones, Brink, Lussier, & Nicholls, 2010). The authors suggest that further methodologically rigorous research is needed. They also conclude that staff training is only one of many approaches to reducing aggressive incidents.

This review has also uncovered a number of assumptions that tend to inform the majority of de-escalation and restraint training packages. Of particular relevance is the assumption that aggression is an inherent individual trait, or related to particular illnesses, and isolated from other external factors such as the physical environment and staff-patient relationships. The results of this review indicate that training based on such assumptions is unlikely to be effective in reducing aggressive incidents in institutional settings.

The content of the de-escalation and restraint training programmes reviewed can be described on a continuum from proactive approaches to reactive interventions, as illustrated in the diagram below.



Prevention/ Primary De-escalation	**Secondary De-escalation**	**Restraint & Seclusion**
Values & Attitudes	Communication Skills	Coercive/Physical Interventions
Reflective Practice Trauma-Informed Practice	De-escalation Strategies	
Inclusion of Service-User Perspectives		

Figure 1: Continuum of proactive to reactive restraint reduction interventions

One review of 46 studies (Johnson 2010) considered the underpinning philosophies of care and general practice in inpatient units. Her summation is particularly relevant to training and the context of practice in New Zealand, suggesting a need for the content of training to attend to primary causes of aggression and violence. This approach aligns with the need for training to include an integrated approach to understanding causation, including clinicians' beliefs, values and attitudes, and an understanding of the role of the environment, including staff-service user interactions. Significantly, Johnson's summary also supports the need for training to sit within institutional change to support reductions in seclusion and restraint.

This fits with the stated intention of the New Zealand government to limit, over time, the use of seclusion and restraint of mental health service users (Ministry of Health 2010) and DHBs are already working towards this goal. A previous Te Pou document (O'Hagan et al., 2008), outlined best practice in seclusion and restraint and identified the US national training packages developed by the Substance Abuse and Mental Health Services Administration and the National Association of State Mental Health Programme Directors as reflective of best practice evidence in the reduction and elimination of seclusion and restraint.

Guidelines addressing both the effectiveness of different de-escalation and restraint approaches to managing challenging behaviour in clinical settings in New Zealand and the delivery of effective training to achieve this are lacking. Guidelines tend to be developed in New Zealand and internationally as part of promoting evidence-based health care, rather than specifically for guiding training delivery. There is good evidence that the implementation of guidelines has been found to be effective in improving clinical practice.[8] However, the potential shown in the literature for guidelines to change clinical practice is directly relevant to, and supports the development of national guidelines for de-escalation and restraint training, as a component of national mental health workforce development planning.

The paper examined common themes and issues for services in the delivery of de-escalation and restraint training outlined in the research to date. It identifies key components in the development and implementation of effective training. The results are intended to inform the development of a more consistent approach to staff training in this area. Given limited evidence for the effectiveness of some training programmes, a systematic evaluation and subsequent development of 'best practice' with regard to training seems to be long overdue.

[8] Several researchers have reviewed the use of guidelines in health care, including clinical practice guidelines. In a review of 91 studies, Grimshaw (1995) found that properly developed guidelines can change clinical practice and may lead to changes in service user outcome. Bahtsevani et al (2004) conducted a smaller review with stricter inclusion criteria. They found some support that evidence-based clinical practice guidelines improve outcomes for service users, personnel (support for daily work) and organisations (less resource utilisation and reduced costs). Research has also focused on the importance of effective guideline implementation (Fine, 2003; Fulcher, 2007; Grol 2001), and the importance of clinician adherence to the guideline (Dennehy, 2005; Peters-Klimm, 2008). It is clear from these studies that change in clinical practice requires a comprehensive guideline implementation process. There are undoubtedly a number of challenges in developing and effectively implementing guidelines in health care. However, it is generally agreed by researchers and research-practitioners that when properly implemented, guidelines can contribute to better health outcomes and changes in behaviours and clinical practice (Effective Health Care 1999; Grol & Grimshaw 2003; Patridge 2003; Penz et al 2006).

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