

**-Campbell Collaboration Systematic Review Protocol-**

**Institutional Violence: A systematic review and meta-analysis of the impact of situational factors on violence**

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## **1. Background for the Review**

Institutional violence is a significant problem. A recent survey of National Health Service Trusts in the UK reported a high level of violence incidents. In 2000/01 there were 84 272 reported violent or abusive incidents against staff. This compares to 65 000 incidents reported in 1998/99 (Department of Health, 2002). A similar picture emerges in the prison setting. For example, Wortley (2002) reported that in 1995 there were approximately 26 000 prisoner-prisoner assaults in the US prisons. These incidents resulted in 83 deaths (Stephan 1991, cited Wortley 2002). It is well recognised that recorded incidents grossly underestimate the actual level of institutional violence. For example, Cooley (1993) estimated that, in prison settings the actual rate may be as much as 5 times that which is officially recorded (cited Wortley, 2002).

The impact of violence on institutions is not hard to discern: Staff and patients are physically injured and may become psychologically disturbed, property is destroyed, regimes and programs are disrupted and thereby impoverished, violent patients are not only incarcerated for longer but are held in more expensive and more restrictive conditions (Cooke, 1992a; Goetting and Howsen, 1986; Porporino, 1986). Institutional violence may be contagious leading to epidemics of violence (Lion, Madden and Christopher, 1976). The more public forms of violence — roof top demonstrations, riots and hostage takings - may undermine public confidence in the health and criminal-justice systems (Porporino, 1986).

The economic effect of violence can be viewed as wide reaching. Direct costs to the organisation result from disability, illness, absenteeism and staff turnover; there may also be indirect costs due to reduced work performance, reduced quality of service delivery and decreased competitiveness (potentially relevant to the issue of private –v– public prisons). Additionally, there may be less tangible costs including damage to the image of the organisation, reduction in morale and motivation of key staff and diminished loyalty to the organisation. Under The European Convention of Human Rights (ECHR) legislation State authorities have a "positive obligation" to protect those in its jurisdiction from 'foreseeable' risks to their life (Houchin, 2003, personal communication). Thus,

organizations may face litigation and may be adjudged to have failed in their duty of care if an individual suffers violence within the institution.

### **Origins of institutional violence**

When investigating the origin of institutional violence mental health professionals and others have tended to focus on individual variables of a psychological and socio-cultural nature (e.g. Monahan et al., 2001; Quinsey, Harris, Rice, & Cormier, 1998; Webster, Douglas, Eaves, & Hart, 1997) to the virtual exclusion of variables at other levels. For example, Risk Assessment Manuals such as the HCR-20 (Webster, Douglas, Eaves, and Hart, 1997) concentrate on features of the person. Similarly, established theories such as the Importation Model (e.g. Irwin and Cressey 1962) highlight the role of interpersonal factors. This approach assumes that prisoners bring their own social histories and traits with them to the prison environment and such aspects influence their adaptation to the prison environment:

*Preprison experiences, particularly those involving the adoption of criminal values, and personal characteristics of the inmates affect the degree of assimilation into the inmate subculture*  
(Paterline and Peterson, p.429, 1999).

The importation model has found support in research which examines the relationship between inmate subculture and individual based factors such as age; race and education level (Alpert, 1979; Jensen and Jones, 1976; Wright, 1989).

Whilst individual factors are crucially important to understanding and managing violence, it is widely recognised that behaviour does not occur in a vacuum. Situational factors can exert a considerable influence over behaviour (Toch, 1985). Situational factors/variables can be defined as the characteristics of the situation in which the violent incident takes place rather than characteristics of the individual (Megargee, 1982). Situational factors can be viewed as *organisational* (e.g., leadership, management and policies and procedures), *physical* (e.g., security level, physical resources) or/and *staff characteristics* (e.g., gender, experience and interaction style with clients). As staff form an integral part of the institutional environment and influence how the institution is managed and how it functions, such factors can be viewed as situational variables.

The contributory role of situational factors is noted in explanatory models of prison violence such as the Deprivation Model. This model proposes that prisoner aggression is the product of the stressful and oppressive conditions within the prison itself (e.g. Goffman, 1961; Sykes, 1958). This model:

*“...emphasises the importance of the pressures and problems caused by the experience of incarceration in creating an inmate subculture”*

(Paterline and Peterson, p. 427, 1999).

Furthermore, the Management Model (e.g. DiIulio, 1987) emphasises the role of situational factors: with this model prison violence is viewed as the result of failed prison management, security lapses, high staff turnover and a lack of discipline among guards and areas of high traffic in which crowds are not quickly dispersed.

The Popcorn Model of workplace violence (Folger & Skarlicki, 1995) provides a useful analogy to describe the importance of situational variables. Folger and Skarlicki (1995) contended that the individual who is violent is like the first piece of corn to pop when the pan is heated. A great deal of effort could be expended examining the characteristics of each piece of corn to determine why that particular piece popped first, however, importantly, no piece of corn would have popped if heat had not been applied. The message portrayed by this analogy is echoed in a statement by Gendreau, Goggin and Law (1997) who stated:

*“Our expectation is that when offenders high on personal risk factors (e.g. antisocial attitudes and behaviour) live in precarious prison environments, potentially volatile consequences are more likely to result”*

(Gendreau, Goggin and Law, 1997, p. 6).

However, what this model also emphasises is that individuals who are not high on the personal risk scales may also become violent if enough heat is applied.

Physical and organisational characteristics, which are viewed as part of institutional living, have been highlighted by researchers such as Goffman (1961) and Bottoms (1999). Common features such as: Prevented, limited, or supervised access to the outside

world and organisation of time and space are highlighted as key features. In addition, the facts that all aspects of life are conducted in the same place (under a single authority and in the company of other people) and that a complex relationship, between the staff group and individuals who reside in the institution, exists have been highlighted. Such features emphasise key aspects which are associated with the institutional environment and not the individuals who reside in the institution.

In contrast to research on individual characteristics, there has been comparatively little systematic research carried out on the role of situational factors. Previous research designed to elucidate the relationship between situational factors and institutional violence has examined the effects of the following situational variables: **crowding** (e.g., spatial density, social density, transiency, turnover rate, reduction in population size; **location of assault** (e.g., recreational area); **temporal aspects** (e.g. the time of day/month of year/day of week that assaults occur on); **management style** (e.g., learning and recreational programs, type of supervision, ward regime); **level of security** (e.g., high, medium or low, supervision levels); and **staff features** (e.g., quality of interaction, management of violent incident, level of training, experience of staff, gender, types of developmental courses that are offered to staff, staff to inmate/patient ratio). A preliminary literature search was conducted to obtain an overview of research findings in this area and a summary of research pertaining to the above situational variables is presented below.

### **Crowding**

According to Cox, Paulus and McCain's (1984) Social Interaction Demand model, crowding produces increased levels of uncertainty and goal interference when social interaction takes place. Within the prison environment this is thought to increase prisoner's fear, anxiety, cognitive strain and frustration levels. As close proximity of individuals is thought to increase the likelihood of attempted interaction it would be reasonable to hypothesise that there would be a direct relationship between crowding and institutional violence. Empirical findings do not however support this hypothesis. For example, Megargee (1976) and Nacci, Teitelbaum and Prather (1977) found that violent

behaviour within prison settings was inversely related to the amount of living space available to each prisoner. An explanation for this finding is that compensatory measures may be put in place when an institution reaches maximum capacity. Similar findings have been reported in psychiatric institutions. Nijman, Campo, Ravelli and Merckelbach (1999) examined the effects of increased spatial density in a psychiatric ward and found that increased space did not serve to reduce the level of violent incidents. When considering this variable in relation to institutional violence it is useful to distinguish between social and spatial density. Where possible, this distinction will be made with reference to the relevant research discussed in the systematic review.

### **Location of assault and temporal aspects**

Previous research has aimed to highlight ‘high risk’ times and locations in both prisons and psychiatric hospital settings. A recent study showed that violent incidents peaked at mealtimes, medication times, and at 21:00 hours (Gudjonsson, RabeHesketh, Wilson, 1999). This could indicate that violence is most likely to occur during times of transition or uncertainty. With reference to location of assaults, areas that are densely populated appear to be prime settings for institutional violence.

### **Management style**

Key management issues appear to be related to level of institutional violence. Higher rates of prisoner homicides have been reported when prison administrators have failed to resolve conflicts between the administration and frontline staff (Reisig, 2002). Ward (1987) further emphasised the importance of a well run establishment. He argued that chaotic administration may have led to high rate of violence which resulted in 120 stabbings in a six month period.

### **Program Availability**

The manner in which a programme is operated can contribute to a reduction in violence (Walrath, 2001). A non-violence training program run for inmates, by inmates was associated with reduced rates of aggression for those who took part in the program compared to individuals who did not participate. Support programs for staff also appear

to be related to assault rates. Flannery, Hanson, Penk, Goldfinger, Pastva and Navon (1998) examined the effects of the implementation of a program called the Assaulted Staff Action Program (ASAP) and reported a significant decline in the number of reported staff assaults.

### **Security level**

Security level is recognised as being related to institutional violence (Porporino, 1986). A summary of the distribution of reported security incidents within the Canadian Federal Correctional Systems (for the time period 1980-1984) by security level and custody type concluded that 53% of the reported assaultive incidents occurred in a maximum security institution even though only 31% of the prisoner population was being held in these institutions (Poporino, 1986). Jayewardene and Doherty (1985) also highlighted the role of security level. They concluded that most assaults occurred in maximum security settings. One might assume that individuals who are placed in this type of setting can be viewed as more “dangerous” than individuals in open prisons for example thus explaining the higher rate of violent incidents. However, one would also assume that strict regulations and a heavily controlled environment would accompany an increased security level. Research indicates that rather than deterring violence this feature of high security settings may serve to increase violent incidents.

### **Staff Features**

The term ‘Staff Features’ is used to refer to different variables which appear to be related to institutional violence. For example the quality of communication between staff and individuals residing in the institution has been found to be an important variable (e.g. Sheridan, Henrion, Robinson and Baxter, 1990; Cooke 1987). Level of Staff Experience has also been associated with institutional violence. For example, Hodgkinson, McIvor, Phillips (1985) demonstrated that nurses in the training grades are assaulted more often than expected while nursing assistants are assaulted less often than expected. Similarly, experience of staff is relevant to assault rates in the prison setting (e.g. Cooke 1987). Davies and Burgess (1988) examined the relationship between prison officers experience and assault rate. Their results showed that length of experience was a relevant factor.



Features concerning job performance have also been linked with level of violent incidents. Carmel and Hunter (1990) found that wards in a forensic state mental hospital in which a minimum of 60% of staff adhered to training in the management of assaultive incidents experienced much lower rates of staff injury than wards in which fewer than 60% of staff complied with training.

The research reviewed above shows that situational variables may influence institutional violence. In considering the relationship between situational variables and institutional violence the aim is not to minimise or eradicate the input of individual based factors (i.e., criminal history, mental illness, etc) but to gain a comprehensive understanding of the causes of institutional violence. There is a growing awareness that increased knowledge regarding the situational determinants of violence in forensic and prison settings should lead to improved management strategies for violent offenders (e.g., Bjorkly, 2000). Wortley (2002) identified three key benefits associated with situational risk management interventions. First, situational risk management interventions may involve minor changes to the environment. Second, they may provide quick, practical and cost effective solutions. Third, only a limited number of locations need to be considered and lastly, this approach may be effective with people who will not comply with individual-based interventions (Cooke, 1989). In sum, the available literature indicates that situational variables are associated with violence. Interventions aimed at these risk factors may provide time- and cost-effective strategies for risk management.

## **2. Objectives of the Review**

The aims of the review are first, to evaluate the evidence on situational risk factors for violence in institutional settings and second, to examine the relationship between different situational variables and violence. It is envisaged that these findings will contribute to the design and implementation of appropriate risk management strategies. To achieve these aims a two-stage process will be conducted.

The first stage will involve the identification of research which has evaluated the effect of situational factors (e.g., security level and programs for staff and inmates) that have been

manipulated to reduce institutional violence. We anticipate that this review will produce few relevant studies therefore a second stage will be carried out to identify literature which examines the relationship between situational variables and institutional violence. This stage will be conducted to highlight situational variables that are positively and negatively associated with institutional violence.

The steps involved to obtain relevant research will now be described in full for Stage 1 and Stage 2 respectively. With reference to information concerning the Stage 2 in sections where information is identical to the procedures utilised in Stage 1 rather than reiterate the information where the information has been previously presented will be provided.

### **3. Methods**

#### **STAGE 1**

##### **Overview**

Stage 1 will be conducted in order to identify research in which situational variables have been manipulated in order to reduce institutional violence. The stages involved in obtaining relevant research, extracting relevant information and aggregating research findings are described below.

##### **3.1 Criteria for inclusion and exclusion of studies in the review**

The following inclusion and exclusion criteria will be used to assess study eligibility for the present systematic review:

**(i) Only research that has been conducted post 1960 will be used in the systematic review.**

Rationale As the empirical findings from the present review are intended to represent situational factors and the physical environment of present day prisons, research conducted prior to 1960 is not appropriate.

**(ii) Both published and unpublished research will be considered for use with in the review.**

Rationale To avoid an upward bias of the effect size and to ensure that all relevant research is identified both published and unpublished research will be included in the review. Whether this distinction contributes to effect size will be investigated in the planned meta-analysis through a sensitivity analysis.

**(iii) With regard to methodology there will be no prerequisites for inclusion in the review.**

Rationale Unlike other research areas such as health psychology (in which randomised controlled

trials are generally utilised) research methodology in this area is varied. Consequently by excluding research based purely on methodological type it is possible that relevant empirical findings will be overlooked. However in order for articles to be included in the review they must present empirical data and pass the minimum quality threshold described below.

**(iv) For a study to be included in the review, it must satisfy a minimum quality threshold.**

Rationale As a key aspect of a systematic review is to ensure that high quality research is collated and assessed it is necessary to include a measure of methodological rigour as an inclusion criterion. With reference to quality assessment the key characteristics of a high quality study are:

- i) Internal validity
- ii) Descriptive validity
- iii) Statistical conclusion validity
- iv) Construct validity
- v) External validity

The reviewers consider that published research, which has been peer reviewed, should be of a high standard and satisfy aspects concerning the above measures. Therefore research that has been published in a peer reviewed journals will not be independently assessed for study quality and will be assumed to be of moderate to high quality and will be coded accordingly. However research that is not published or published without having been peer reviewed will be assessed for quality by the reviewers. To assess the quality of the quantitative research studies a check list which has been adapted from the Partial Synthesis Coding Form (Cooper and Hedges, 1994) will be used. The quality of the qualitative research will be assessed using The CASP appraisal tool for research. The tool which contains 10 questions has been developed by the national CASP collaboration for qualitative methodologies (© Milton Keynes Primary Care Trust 2002. All rights reserved). Written permission has been sought and granted for using this questionnaire as a quality assessment tool in the present systematic review.

**(v) With reference to the linguistic range during the initial study eligibility review process abstracts that are written in a language other than English will be included.**

Rationale It is necessary to obtain data from all countries in order to produce a well-rounded and comprehensive review that will be applicable to a range of countries.

**(vi) Only studies which have a research sample over the age of 16 years old will be considered for suitability in the review.**

Rationale On account of the contextual and functional differences which are evident between settings such as prisons and juvenile homes, only institutions which house individuals over the age of 16 years will be included.

**(vii) Research which uses male and female participants will be used.**

Rationale In order to ensure that valuable empirical findings are not overlooked research conducted with both female and male samples will be used. Gender will be entered as an independent variable in the subsequent meta-analysis to investigate whether there is a relationship between violence in institutions and precipitating situational factors and gender.

**(viii) Concerning the setting in which the study takes place only research which examines acts of violence in psychiatric wards and prisons will be considered for use in the review.**

Rationale Only research which is conducted in the above settings will be included as these are places where individuals are confined to the premises in contrast to places such as community residential homes where individuals are free to leave the location when they desire. Due to the restrictive nature of such settings one is able to investigate the relationship between behaviours such as violence and the environment in which the individual is confined.

**(ix) Research that examines an intervention or change that has been implemented in the institutional setting with reference to levels of institutional violence will be included.**

Rationale As a key aim of the review is to identify evaluations of different situational factors that have been manipulated to reduce institutional violence studies which report findings concerning the impact of such procedures/changes will be viewed as relevant if they report the impact that the intervention

has had on violence levels.

**(x) Research which examines the incident rate of violence that can be classified as sexual, verbal and/or physical in nature will be considered for use in the review.**

Rationale This aspect relates to the main objective of the present study: that being the elucidation of situational variables that influence violence in institutional settings. By including the above ‘types’ of assaults a comprehensive range of acts of violence, which are likely to occur in institutions, will be investigated. Whether particular situational factors are highly correlated with certain types of assaults will be investigated in the proposed meta-analysis. With reference to the different types of acts of violence they will be examined separately. In addition sexual assault will be examined in terms of assaults committed in order to display power and assaults committed within the confines of sexual offenders ward.

**(xi) Research which examines an act of violence which involves a minimum of two people will be considered in this review**

Rationale This criterion for the number of individuals involved in the act of violence will be used to distinguish between assaults and acts of self-harm.

**(xiii) Research which examines acts of violence (in prisons) that involve gangs will not be viewed as relevant**

Rationale It is felt that gang violence is contextually different to violence involving two or three individuals. Given that gang violence is often viewed as being rooted in gang affiliation and membership we consider that individual factors related to the prisoner (i.e. ethnicity and reason for incarceration), political or social contexts that involve views held outside the institution are more likely than situational variables to relate to, cause or encourage gang membership and potential gang violence.

**(xiii) Studies which examine the incident rates of acts of violence which involve prisoner/patient to prisoner/patient violence and/or prisoner/patient to staff violence and staff to prisoner/patient violence will be examined.**

Rationale Research in this area demonstrates that acts of violence in prisons involve both staff members and prisoners/patients. Therefore in order to conduct a comprehensive review of the influential role of situational factors in precipitating acts of violence studies which examine prisoner-prisoner and prisoner-staff violence will be examined. The different combinations of perpetrators and victims will be examined separately. However, in the meta-analysis whether particular situational variables are highly correlated with prisoner/patient-prisoner/patient violence or prisoner/patient-staff violence will be investigated.

**(xiv) Research that examines acts of violence that involve one person such as acts of self harm will not be used in the present review.**

Rationale As previously stated acts which involve a minimum of two individuals are of interest in the present review.

**(xv) Research that examines acts of violence that can be described as expressive/explosive or instrumental will be viewed as relevant.**

Rationale Although the motivations to perform a violent act can differ with reference to whether something can be gained or not by the outcome, all types of violent acts will be included. Efforts will be made to examine different “types” of violent incidents in so much as the available research findings permit.

The above study eligibility criteria will be applied to both quantitative and qualitative research. However, research findings from these types of studies will be examined separately. Study eligibility screening will be a two-phase process. In the first stage, initial relevance decisions will be based on the reading of report titles and abstracts that

are retrieved when the keyword search terms are entered as search terms in electronic databases (section 4.2). For a study to be included it must fulfil all of the inclusion criteria and none of the exclusion criteria.

Due to time constraints one reviewer will make initial judgements regarding the suitability of the studies. Where a decision can not be reached, an additional two reviewers will read the full text articles and a group decision will be made. As the two reviewers who will enter the decision making process are experts in this area details of the source and authors of the articles will not be made available to them. In instances of disagreement amongst the reviewers the majority decision will be accepted.

To ensure that the initial decision making process is not being conducted in a biased manner a sample of the original titles and abstracts (i.e., 20%) will be reviewed by the two expert reviewers. Inter-rater reliability will be assessed using the Kappa statistical test will be used. A predetermined acceptable Kappa level of .41-1.0 will be used. This is based on information provided by Landis and Koch (1977) who summarized the strength of agreement between raters in relation to kappa as <math>0</math>= poor 0-.20= slight, .21-.40 = fair, .41-.60 = moderate, .61-.80 = substantial, .81-1.0 = almost perfect. If the kappa value is below .41 the inter-rater reliability will be viewed as being too low. If this was to occur the inclusion and exclusion criteria used will be refined and all of the original articles retrieved will be reviewed based on the new criteria.

During the second phase of the study selection process studies that are identified as potentially relevant will be provisionally included for consideration on the basis of the full text article. The final inclusion decisions will be made once the full text article has been read. Studies which do not fulfil the inclusion criteria will be excluded. Reasons for exclusion will be recorded in a database in Reference Manager 10. As in phase one the articles for which a clear decision can not be made will be reviewed by an additional two expert reviewers. If there is not unanimous agreement amongst researchers concerning studies suitability for inclusion as before the majority view will be taken.

Prior to commencing phase one of the study selection process the inclusion and exclusion criteria will be piloted to verify that they can be reliably interpreted and that they classify the studies appropriately. Table 1 below displays a sample of the literature that would be included and excluded. The literature noted is from a subset of studies that were retrieved from the PsycINFO database using the following search term: (violence OR assault OR attack) & (prison OR secure units OR institutions OR hospitals).

**Table 1. A sample of studies that will be included and excluded based on the predefined inclusion and exclusion criteria.**

| Included studies   | Excluded studies   |
|--|--|
| <p>Morrison, E., Morman, G., Bonner, G., Taylor, C. et al. (2002) Reducing staff injuries and violence in a forensic psychiatric setting <i>Archives of Psychiatric Nursing</i> 16 (3), p. 108-117.</p> <p><b>Reasons for inclusion:</b> the study was set within a closed psychiatric ward and acts of violence directed towards the staff by the patients were investigated.</p> | <p>Finn, M. A. and Stalans, L. J. (2002) Police handling of the mentally ill in domestic violence situations. <i>Criminal Justice and Behavior</i> 29(3), p. 278-307.</p> <p><b>Reasons for exclusion:</b> The environment in which the acts of violence were carried out was not relevant with regards to the specific aims of the present review.</p>  |
| <p>Resig, M.D. (2002) Administrative control and inmate homicide <i>Homicide Studies: An interdisciplinary and International Journal</i> 6 (1), p. 84-103.</p> <p><b>Reasons for inclusion:</b> the study was set within an enclosed environment and the relationship between inmate violence and administrative control (a situational factor) was investigated.</p>              | <p>Walsh, Leese, Morven, et al. Psychosis in high-security and general psychiatric services: Report from the UK7009 and special hospital; treatment resistant schizophrenia groups. <i>British Journal of Psychiatry</i> 180 (4), p. 351-357.</p> <p><b>Reasons for exclusion:</b> the study is concerned with the relationship between a diagnosis of schizophrenia and violent incidents. Situational factors related to the ward environment were not investigated.</p> |

### 3.2 Search strategy for identification of relevant studies and management of retrieved material

In order to increase the likelihood of obtaining a comprehensive sample of relevant research we have decided on a broad research strategy utilising a substantial list of search terms (Jackson, 1978). The list was constructed by noting key identifiers and descriptors from articles that were retrieved from a search on the PsycINFO database using the key words “violence” and “institutions”. The terms were reviewed by a stake holder to ensure that all key and relevant search terms are included.

The following search terms will be entered into the appropriate databases:

- (i) (violence OR assault OR attack OR aggressive\*) & (institutions OR hospitals OR prison OR secure units)

(ii) (violence OR assault OR attack OR abuse OR aggress\* OR behaviour OR disorder OR conflict OR hostility OR offense OR offence OR offence OR incident\* OR victim OR perpetrator) & (institutions OR hospitals OR prison OR secure units OR custody OR detention OR correctional facility OR jail) & (injury OR homicide OR inmate OR fight OR incident OR misconduct OR employees OR staff OR guards OR hierarchy OR management OR nurses OR doctors OR non-custodial staff OR conditions OR incentives OR rule OR violation OR interventions OR hotlines OR informants privileges OR reforms OR remission OR rules OR safety OR management OR routine OR precipitators OR active\* OR classes OR facilities OR provisions OR programs

The structure of the key search terms will be modified to suit individual data sources. The databases that have been selected cover different sources of information stemming from grey literature, research registers and peer reviewed literature from a medical and social science background. By searching a comprehensive range of databases using the predetermined search terminology and time range (1960 to present) the aim is to conduct a broad literature search that will generate a composite list of studies.

The following databases have been selected to ensure that a broad range of published and unpublished literature is retrieved: Aggressive Research Intelligence Facility (ARIF), Appled Social Science Index and Abstracts (ASSIA), C2-SPECTR, Government Publications Office Monthly, Government Publications Reference File, International Bibliography of the Social Sciences (IBSS), Medline, National Crime Justice Reference Section (NCJRS), The National Institute for Clinical Excellence (NICE), OVID Nursing Collection, PubMed, PsycINFO, ESRC Funded Research (REGARD), System for Information on Grey Literature in Europe (SIGLE), UK National Health Service Research Register (NRR), Violence Research Literature Database (VIOLIT), Violence and Abuse Abstracts, Criminal Justice Abstracts, Web of Knowledge. An internet search using key terms will also be performed. In particular government websites for the following countries will be searched for relevant reports: United States, France, Belgium, Canada, Australia, Spain, New Zealand and Canada.

Hand searching of all relevant journals is not possible due to the number of man hours that this task would require. However a compensatory measure will be incorporated

which will involve personal communication. This approach will also be used to ensure that key research has not been overlooked or neglected. A letter will be sent to key researchers in this area (approximate number of people to be contacted, N=300) and to administrative agencies in charge of institutional control. The letter will contain a synopsis of the review, the key research questions and objectives. To demonstrate the type of research that is of interest a sample of the studies to be included and excluded in the review will also be listed. Individuals will be asked to contact the reviewers if they know of relevant research that has not been targeted.

Once relevant studies have been identified the references cited in each article will be examined. When a relevant article is found the reviewer will check whether the article was identified during the initial database searches. If the article was not retrieved during the initial search the abstract will be retrieved and will be used to assess the articles suitability for the present review. As with the aforementioned screening process if the article appears to be relevant the full text article will then be assessed.

### **3.3 Data Management**

The citations retrieved from each electronic database search will be saved as a text file and then imported into Reference Manager 10. Information obtained from journal searching and personal communication will also be recorded in this reference program. When available, electronic abstracts will also be saved and imported into the reference program. If the abstract is not available from the database this will be sought through an interlibrary loan and then typed into Reference Manager. Information regarding which database the article was retrieved from, the search term that was used to locate the article and the date the article was retrieved will also be noted. As several databases are being searched, using the same search terms, it is likely that references will be duplicated therefore prior to the initial reviewing of the titles duplicates will be deleted.

To keep track of which studies at which stage in the review process have been excluded and included the following databases will be developed and maintained:



- (i) A database consisting of all publications retrieved based on the search strategy.
- (ii) A database of included publications after the composite list of study titles has been screened.
- (iii) A database of included publications after abstracts and titles have been read.
- (iv) A database of included publications after the full text article has been read.

Articles that are viewed as relevant at this stage will be read to assess the quality of the study. Coding forms will be used to assess the quality level of both quantitative and qualitative research (See Appendices p.29). A minimum quality threshold will be adhered to (for information see point (iv) p.16). Studies that do not satisfy this inclusion criterion will not be included.

### **3.4 Description of methods used in primary research**

Within the systematic review key features of the experimental design generally utilised in this research area will be specified. Studies which are prime examples of both qualitative and quantitative research in this area will be discussed in order to illustrate the common methodological approaches adopted in this area. Information concerning usual participant sampling, procedures, and research design and measurement techniques will be discussed.

### **3.5 Criteria for determination of independent findings**

Where individual studies report multiple outcome measures, each of these will be coded separately. Each study will yield no more than one correlation/ES per independent variable.

### **3.6 Coding categories**

The substantive and methodological features of each study will be coded using questionnaires designed to extract information on key features of interest, namely study aims, research design (method used and research sample), analysis conducted and conclusions. To do this in a systematic manner in the first instance paper forms will be used to record information. This information will then be entered into an electronic database developed in the Microsoft Access program.

The following forms will be used to obtain and manage relevant study information:

Form 1 – Study Information Form

Form 2 – Research Findings Form

Form 3 – Quality Assessment Form for Qualitative Research (CASP Appraisal tool will be used).

Form 4 – Quality Assessment Form for Quantitative Research (Check list adapted from the Partial Synthesis Coding Form (Cooper and Hedges, 1994).

(For copies of the form refer to Appendices, p. 29).

### **3.7 Statistical procedures and conventions**

The Comprehensive Meta-Analysis computer program for research synthesis will be used to conduct the analyses. 95% Confidence Intervals (CI) will be reported. Different weighting to studies will be applied based on sample size. The effect of weighting studies based on this criterion will be investigated through a series of sensitivity analyses. Issues related to the type of study design will be investigated using this approach. As stated above, under the independent findings section, each study will yield no more than one correlation/ES per independent variable.

With regard to the quality assessment ratings, for the quantitative studies, this information will be entered into the meta-analysis and the issue of study quality will be investigated through a sensitivity analysis. The observed differences in quality as an explanation for heterogeneity in study results will be examined. Concerning the quality assessment information for studies which are qualitative in nature, this information will be discussed in relation to findings in the systematic review. This information will specifically be used to guide interpretations of findings and to assist in determining the strength of inferences that will be made.

In cases where there is missing data the principal researcher on the study will be contacted in writing with a request for the missing data. The letter will contain a

summary of the systematic review, the reason for the inclusion of the study in question, and a summary on the data that are required. The request for the missing data will take the form of a closed ended request in order to ensure that there is no confusion over what data is required. The author will be invited to contact one of the reviewers if they have any questions concerning the use of their data.

If the missing data can not be obtained from the researcher the process suggested by Lipsey and Wilson (2001) will be adhered to. Lipsey and Wilson recommend that in instances where a study reports an effect size as a non significant effect, but does not provide the actual effect size, it is recommended that the effect size is portrayed as 0. They also state that for significant effects without an exact probability, the effect size can be estimated based on the assumption that  $p=0.05$ . In cases where it is not possible to estimate the effect size the study will be excluded from the analysis.

### **3.8 Treatment of qualitative research**

In addition to reviewing quantitative research findings, a further objective of this review is to include data on the subjective experiences of violence in institutions in order to provide a fuller and more comprehensive understanding of the situational risk factors for violence in institutions. Qualitative research will be used in the present review to aid and compliment the information obtained from the meta-analysis. This type of research (e.g. studies which aim to assess subjective views) provides information which can not be obtained using traditional quantitative approaches. The contribution of qualitative research in a systematic review is recognised (e.g. Thomas et al. 2004). Green and Britten (1998) described several advantages of qualitative research that would apply. For example they noted that qualitative methods can help bridge the gap between scientific research and clinical practice. Qualitative research findings can provide detailed descriptions of interventions in everyday contexts and this can help us understand the barriers to using research based interventions in practice settings. In addition this type of information will facilitate an understanding of the heterogeneous results; to identify factors that enable the implementation of risk management interventions, to gain a fuller understanding of the

experience of individuals who experience violence; and as an indication of individual's views of the influence of situational factors on violence in institutions.

Although the benefits and contribution of qualitative research in systematic reviews is recognised, problems involving the aggregation of research findings are also recognised. For example Thomas et al. whilst recognising the benefits also point to a “daunting array of theoretical and practical problems” (Thomas et al., 2004, p. 1010). As qualitative research will be considered in isolation to quantitative research and as it will be examined using a descriptive approach it is hoped that conceptual and practical problems are limited. The proposed procedure for aggregating and examining research findings is described below.

Prior to including qualitative research into the systematic review it will be assessed for study eligibility based on the inclusion and exclusion criteria discussed in section 4.1. With reference to qualitative research, the information from the coding sheets will be used to descriptively map the research findings. The concept of mapping qualitative research findings was developed by David Gough (Evidence for Policy and Practice Centre, University of London). This approach involves an analysis of the keyword results in terms of variables such as population focus, country where conducted, age group, study design, quality and specific variables under investigation. This procedure will be used to investigate the qualitative research as it will provide a systematic description of research activity in the area of interest. These studies will be discussed descriptively in the systematic review.

The methods used in this research area will also be examined. Consequently the design of the studies will be considered when discussing the contribution of qualitative research to the understanding of the role of situational factors in influencing violence. Although this information will not be examined using a meta-analysis it is hoped that through descriptively mapping the information an approach which aims to aggregate research findings in a meaningful manner will be applied.

### **3.9 Additional information**

For both qualitative and quantitative research, as previously stated information will be noted regarding the research approaches used in the studies. From a brief overview of relevant research it is anticipated that a mix of the following methods will be used to collect data: official incident reports, incident reports designed for the purposes of the specific studies, government statistics and figures for violent incidents, surveys, interviews, anonymous reporting, observational studies, and focus groups. We believe that it would be useful to provide a critique of the different types of research methods used to measure institutional violence with reference to the validity of each approach. This will be presented in the discussion section of the final systematic review. In addition issues concerning the reporting and management of institutional violence will be discussed. For example, a study conducted by Hodgkinson et al. (1985) recognised a limitation in obtaining data from forms which staff completed when an assault has occurred. They stated that: *“no doubt some incidents escaped being recorded perhaps in areas where assaults are more frequent they are often seen as being ‘part of the job’ and therefore ‘not worth recording’”* (p. 292).

Additional issues such as the impact of the time lapse between incident report being completed and actual assault and whether the perceived seriousness of the assault is affected by the security level in the institution will be considered in direct relation to the research findings.

## **STAGE 2**

### **Overview**

Stage 2 will be carried out as a means of identifying literature which examined the relationship between situational variables and institutional violence. This stage will be conducted to highlight situational variables that are both positively and negatively associated with institutional violence. The steps involved in this part of the review are described below.

#### **4.1 Criteria for inclusion and exclusion of studies in the review**

With reference to inclusion/exclusion criteria stated in Stage 1 points (i) – (viii) and (x)-(xiii) (for information see p.10-12) will also be utilised in this stage of the study. In addition the following inclusion criterion will be used in this stage as a means of assessing a studies relevance to the review:

**Studies which measure individual characteristics which can be viewed as situational variables (e.g. staff morale and staff experience) will be included in the review.**

Rationale In the present study environmental and situational variables are of interest. It is expected that there will be some variables (e.g. staff experience or morale) which could be viewed as individual characteristics will be associated with institutional violence. However for the purposes of the present research these aspects are more appropriately viewed as characteristics of the regime. Studies which include the following variables will be of interest – situational precipitators of violence which can be viewed as key features of the institutions regime (e.g. staff-prisoner communication, staff experience, staff morale, staff strategies) and/or physical aspects of the institutions environment (e.g. design of the prison).

With regards to the inclusion and exclusion criteria that will be used to assess study relevance, the same points will be adhered to with the exception of point (ix) as this is specific to Stage 1 (for information see p.11).

To determine whether or not a study is relevant the procedure used in Stage 1 of the review will be replicated in this stage of the review in this procedure (for information see p.10-13).

#### **4.2 Search strategy for identification of relevant studies and management of retrieved material**

As in Stage 1 a broad search strategy is favoured in this stage of the review. Many of the search terms are the same as those used in Stage 1. Below is a complete list of the search terms to be entered into key databases:

(i) (violence OR assault OR attack OR aggressive\*) & (institutions OR hospitals OR prison OR secure units)

(ii) (violence OR assault OR attack OR abuse OR aggress\* OR behaviour OR disorder OR conflict OR hostility OR offense\* OR offence OR incident\* OR victim OR perpetrator) & (institutions OR hospitals OR prison OR secure units OR custody OR detention OR correctional facility OR jail) & (injury OR homicide OR inmate OR fight OR incident OR misconduct OR ecological OR situational OR rules OR screening OR equity OR seasonal variation OR lockers OR employees OR staff OR guards OR hierarchy OR management OR nurses OR doctors OR non-custodial staff OR generation OR surveillance OR units OR security OR frustration OR grievance OR conditions OR incentives OR rule OR violation OR interventions OR hotlines OR informants OR

sentence OR race OR motivation OR phone OR population OR policy OR privileges OR reforms OR remission OR parole OR safety OR dormitories OR cubicles OR turnover OR privacy OR methadone OR multiple assailant OR weapons OR premeditated OR unexpected OR anonymity OR obedience OR temptation OR provocation OR rehabilitation OR rules OR safety OR accommodation OR bunking OR cells OR social climate OR area OR management OR routine OR precipitators OR expectancies OR time OR day or holiday OR reported assaults OR revenge OR riots OR suicide OR rape OR provocation OR recidivism OR trafficking OR theft OR transience OR active OR classes OR facilities OR provisions OR programs OR space OR crowding OR administration OR admission OR age OR gender OR sentence OR allocation OR altercation OR antecedents OR food OR alcohol OR weapons OR drugs OR blind spots OR design OR layout OR boredom OR bully OR surround OR colour OR environment OR stress OR bodily harm OR control OR regime OR strategies OR visits\* OR rights OR contraband OR property OR diet OR decision OR danger OR deindividual\* OR delinquency OR sentence\* OR disciplinary OR procedures OR dispute)

(iii) Prison & model & (consensual OR control OR responsibility)

#### **4.3 Data Management**

The data will be handled in the manner described in Stage 1 of the protocol (for information see p. 16).

#### **4.4 Description of methods used in primary research**

The information provided in this section will follow the same format as described in Stage 1 of the systematic review protocol (for information see p. 17)

#### **4.5 Determinant of independent findings**

The same process will be followed as that outlined in section 3.5 (for information see p. 17).

#### **4.6 Coding categories**

The same coding categories described in section 3.6 (for information see p. 17) will be used for the second stage of the review.

#### **4.7 Statistical procedures and conventions**

To aggregate the research findings the same approach described in section 3.7 will be used to examine the relevant research from the second stage of the study (for information see p. 18).

#### **4.8 Treatment of qualitative research**

The relevant qualitative research identified in the second stage of the study will be examined using the same approach outlined in section 4.8 (for information refer to p. 19).

### **5. Time Frame**

#### **June 2004**

Stage 1 Searches for published and unpublished studies, pilot testing of study inclusion criteria and relevance assessments, pilot testing of study codes and data collection was conducted.

**July 2004** Extraction of data from research reports, identification of key outcomes for both qualitative and quantitative research, statistical analysis.

#### **August 2004**

Stage 2 Searches for published and unpublished studies, pilot testing of study inclusion criteria and relevance assessments, pilot testing of study codes and data collection was conducted

**September-November 2004** Extraction of data from research reports, identification of key outcomes for both qualitative and quantitative research, statistical analysis.

#### **December-March 2005**

Dissemination and write up of results for Stage 1 and Stage 2.

### **6. Plans for Updating the Review**

If the systematic review is accepted by the Campbell Collaboration the review will be updated on a biennial basis providing sufficient funding is secured to enable this to be done.



## 7. Acknowledgments

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## 8. Conflict of interest

With regards to the present and previous work commitments of the individuals involved in the review there are no conflicts of interest. With regards to the funding source for this research there is no conflict of interest.

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## **10. Appendix Coding Forms**

**FORM 1 The study information form**

**Study identifier:**  
**Bibliographic reference:**  
**Source of information:**  
**Publication year:**  
**Date of data extraction:**

**Type of article**

**Is the work published or unpublished?**

Published

Unpublished

**Where is the research from?**

Book  
Conference paper  
Other (specify)

Technical report  
Thesis – Masters or Doctoral  
Journal article

**If published was it peer reviewed?**

Peer reviewed

Not peer reviewed

**Where was the study carried out?**

**Study aims:**

**Objectives:**

**Design of study:**

**Research hypothesis:**

**Definition of violence given in study:**

**Sample Descriptors:**

Type of participant:

Mean age:

Median age:

Gender:

Ethnicity:

Number in sample:

Number of drop outs in sample:

Additional sample characteristics:

**Method of recruitment:**

Volunteer

Random

Expand on this:

**Study Characteristics**

**Setting of study:**

Prison      Psychiatric Hospital

Low security      medium security      high security

**Act of violence investigated**

**Type of incident:**

Prisoner and prisoner

Combination (specify)

Prisoner and staff

How many involved in individual violent incidents:

Who is the perpetrator:

Who is the victim:

Sexual

Physical

Verbal

Combination (specify)

Can the assault be defined as:

Instrumental

Expressive/explosive

**Type of assault:**

**Severity of assault:**

Is the violent incident classified?

Are types of incidents examined separately or together?

**Situational variables of interest in the study**

**Which situational variables were tested or reviewed in the study:**

**Management style**

Level of security \_\_\_\_\_

Type of supervision \_\_\_\_\_

Ward regime \_\_\_\_\_

**Architectural Features**

Type of building \_\_\_\_\_

Type of supervision this enables \_\_\_\_\_

**Ward composition**

Number of beds \_\_\_\_\_

Cell structure (single/double bunking) \_\_\_\_\_

**Temporal aspects**

Time of day \_\_\_\_\_

Month of year \_\_\_\_\_

**Climatic Features**

Seasonal characteristics \_\_\_\_\_

Thermal comfort \_\_\_\_\_

Air conditioning \_\_\_\_\_

**Features of Staff**

Quality of staff to patient interaction \_\_\_\_\_

Management of violent incidents \_\_\_\_\_

Level of training \_\_\_\_\_

Staff to inmate ratio \_\_\_\_\_

**Aspects Related to Population Density**

Crowding \_\_\_\_\_

Spatial density (amount of space per person) \_\_\_\_\_

Social density (the number of people in a given space) \_\_\_\_\_



**Hygiene**

Facilities available in cells \_\_\_\_\_

Showers \_\_\_\_\_

**Recreation and Program Availability**

Type of programs of interest \_\_\_\_\_

Recreational activities available \_\_\_\_\_

**Other variables**

**How was the contribution of the situational factor to the act of violence assessed?**

Qualitative                      Quantitative

**Type of study:**

Methodology implemented in study

**Data collection:**

Length of data collection

How was the data obtained?

**Questionnaires:**

Information on questionnaire structure:

Length of questionnaire:

Location of questionnaire completion:

Who completed the questionnaire:

**Interviews:**

Type of interview:

Schedule description:

Length of interview:

Location of interview:

**Incident reports:**

**FORM 2 The research findings form**

**Treatment group sample size**

**Control group sample size**

**Number of experimental groups**

**Number of control groups**

**Data collection (retrospective; prospective)**

**Recruitment procedure**

**Specific inclusion criteria**

**Specific exclusion criteria**

**Effect Size Data for specific situational variables**

**FORM 3 The assessment form for quantitative research**

Who took part in the interview:

Criteria for recording incident:

Key features of report:

Who completed the report:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

additional information

\_\_\_\_\_

NOTES

NOTES

NOTES

NOTES

Type of data effect size based on \_\_\_\_\_

Means and standard deviation \_\_\_\_\_

t-value or F- value \_\_\_\_\_

chi-square \_\_\_\_\_

frequencies of proportions, dichotomous \_\_\_\_\_

frequencies of proportions, polychotomous \_\_\_\_\_

odds ratio \_\_\_\_\_

other (specify) \_\_\_\_\_

Page number where effect size found \_\_\_\_\_

STUDY IDENTIFIER

TITLE-

AUTHOR-

## **8. Design**

**Type:**

- 1= randomised
- 2 = Non-equivalent with pre-test
- 3 = non-equivalent with post-test-only
- 4 = time series
- 5 = other \_\_\_\_\_

9. Control group    1= no    2 = yes

**How the research was carried out:**

1. Is the research aiming to explore the subjective meanings that people give to particular experiences of violence with reference to the influence of situational factors?  
No = 1                      Yes = 2
2. Has the research been designed in such a way as to enable it to be sensitive/flexible to changes during the study?  
No = 1                      Yes = 2
3. Has the study sample been selected in a purposeful way shaped by theory and/or attention the diverse contexts and meanings that the study is aiming to explore?  
No = 1                      Yes = 2
4. Are different sources of knowledge/understanding about the issues being explored or compared?  
No = 1                      Yes = 2
5. Do the researchers make it explicit the process by which they move from data to interpretation?  
No = 1                      Yes = 2
6. If claims are made to generalisability do these follow logically and/or theoretically from the data?  
No = 1                      Yes = 2

The 10 questions have been developed by the national CASP collaboration for qualitative methodologies. © Milton Keynes Primary Care Trust 2002. All rights reserved.

1. Was there a clear statement of the aims of the research?

Consider:

- What is the goal of the research?
- Why it is important?
- Is it relevant?

2. Is a qualitative methodology appropriate?

Consider:

- Does the researcher seek to interpret or illuminate the actions and/or subjective experiences of research participants?

If the above questions both receive a “no” response do not continue with quality assessment.

### **Appropriate research design**

3. Was the research design appropriate to address the aims of the research?

Consider:

- Has the researcher justified the research design (e.g. have they discussed how they decided which methods to use?)

### STUDY IDENTIFIER

TITLE –

AUTHOR -

### NOTES

YES \_\_\_\_\_ NO \_\_\_\_\_

### NOTES

YES \_\_\_\_\_ NO \_\_\_\_\_

### NOTES

### **Sampling**

4. Was the recruitment strategy appropriate to the aims of the research?

Consider:

- Has the researcher explained how the participants were selected?
- Have they explained why the participants they selected were the most appropriate to provide access to the type of knowledge sought by the study?
- Are the sample sizes sufficient to show an effect? If less than 10 per research group this will be viewed as insufficient.

### **Data collection**

5. Were the data collected in a way that addressed the research issue?

Consider:

- Was the setting for data collection justified?
- Is it clear how data were collected (e.g. focus group, semi-structured interview etc)
- Has the researcher justified the methods that were chosen?
- Has the researcher made the methods explicit (e.g. for interview method, is there an indication of how interviews were conducted, did they use a topic guide?)
- If methods were modified during the study has the researcher explained how and why?
- Is the form of data is clear (e.g. tape recordings, video material, notes etc)?
- Has the researcher discussed saturation of data?
- Reflexivity (research partnership relations/recognition of researcher bias)

YES \_\_\_\_ NO \_\_\_\_

### **NOTES**

YES \_\_\_\_ NO \_\_\_\_

### **NOTES**

YES \_\_\_\_ NO \_\_\_\_

6. Has the relationship between researcher and participants been adequately considered?

Consider:

Has the researcher critically examined their own role, potential bias and influence during:

formulation of research questions  
data collection, including sample recruitment and choice of location

how the researcher responded to events during the study and whether they considered the implications of any changes in the research design

#### **Ethical Issues**

7. Have ethical issues been taken into consideration?

Consider:

- Are sufficient details of how the research was explained to participants for the reader to
- assess whether ethical standards were maintained?
- Has the researcher discussed issues raised by the study (e. g. issues around informed consent or confidentiality or how they have handled the effects of the study on the participants during and after the study)?
- Has approval has been sought from the ethics committee?

#### **Data Analysis**

8. Was the data analysis sufficiently rigorous?

Consider:

- Was there is an in-depth description of the analysis process

#### **NOTES**

**YES** \_\_\_\_\_ **NO** \_\_\_\_\_

#### **NOTES**

**YES** \_\_\_\_\_ **NO** \_\_\_\_\_

#### **NOTES**

- If thematic analysis was used is it clear how the categories/themes were derived from the data?
- Has the researcher explained how the data presented were selected from the original sample to demonstrate the analysis process?
- Has sufficient data been presented to support the findings?
- To what extent has contradictory data been taken into account?
- Has the researcher critically examined their own role, potential bias and influence during Analysis and selection of data for presentation?

**YES** \_\_\_\_\_ **NO** \_\_\_\_\_

**NOTES**

**Findings**

9. Is there a clear statement of findings?

Consider:

- Are the findings explicit
- Has an adequate discussion of the evidence both for and against the researcher's arguments been demonstrated?
- Has the researcher discussed the credibility of their findings (e.g. triangulation, respondent validation, more than one analyst?)
- Are the findings discussed in relation to the original research questions?

**YES** \_\_\_\_\_ **NO** \_\_\_\_\_

**NOTES**

**Value of the research**

10. How valuable is the research?

Consider:

- Does the researcher discuss the contribution the study makes to existing knowledge or understanding (e.g. do they consider the findings in relation to current practice or policy,
- or relevant research-based literature?)

- Does the researcher identify new areas where research is necessary?
- Does the researcher discuss whether or how the findings can be transferred to other populations or considered other ways the research may be used?

**YES** \_\_\_\_\_ **NO** \_\_\_\_\_