



Nursing in secure and forensic psychiatry:  
contexts, contributions and concepts

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## Abstract

This thesis details a body of empirical knowledge about issues key to the effective delivery of forensic and secure psychiatric care and treatment: differentiation between firesetters, tobacco smoking in secure psychiatric care, prevalence and management of violence and aggression, medication administration and delegation, and outcomes measurement. The work was conducted in the context of UK provision of secure and forensic services, specifically the independent sector, and in the context of the professional discipline of forensic psychiatric nursing and its extant evidence base. The empirical work is presented in relation to these contextual elements in order to demonstrate that it comprises a coherent and related body of knowledge. It constitutes a contribution to the current knowledge base *per se*, and is congruent with available definitions of forensic psychiatric nursing and of its related evidence base. Specifically, it fuses general psychiatric nursing knowledge with specialist knowledge of secure and forensic concepts. Exploration of the body of work in relation to its contexts raises practical and theoretical questions about current conceptualizations of forensic psychiatric nursing. There is a relative lack of evidence of *effectiveness* compared with the growing theoretical literature on the *role* of the forensic psychiatric nurse, and there are apparent differences between nursing roles in different levels of security such that it is not clear what precisely constitutes a forensic psychiatric nurse. It is proposed that the contexts used to examine the published research submitted in support of the thesis offers a new way to understand the psychiatric nursing role in the secure and forensic care arena. Explication of these contexts, or dimensions of practice, are made and mapped to produce a zonal model of secure and forensic nursing. The zonal model is a way of understanding how the research submitted in



support of the thesis makes a contribution to a coherent field of practice. It also facilitates a redefining of the forensic psychiatric nursing role as one of advanced practice within a framework of expert knowledge of the secure and forensic dimensions in which it operates, requiring an understanding and translation of the best research evidence from any relevant field into practice, containing elements of expanded practice and wider knowledge of the political and sociocultural context in which practice occurs. The implications of the model for future research and development are addressed.



## Chapter 1. Introduction

### 1.1 Overview

The body of research described in this thesis was published in peer reviewed journals between 2004 and 2010. It is the product of a number of projects focusing on issues relevant to those responsible for the organisation or delivery of forensic and secure psychiatric services, and to individuals in receipt of the care and treatment provided.

- i) Firesetting among people referred for forensic psychiatric examination  
(conducted 2007-8)
- ii) Perspectives of staff and patients about smoking in secure psychiatric care  
(conducted 2003-4)
- iii) Prevalence and management of aggression and violence in psychiatric care  
(conducted 2007-9)
- iv) Medication administration and errors in secure psychiatric care (conducted 2005-6)
- v) Outcomes measurement in secure psychiatric care (conducted 2006-9)

This thesis aims to demonstrate that the body of empirical work outlined above has contributed significant new knowledge across a zone of practice relevant to psychiatric care in the context of secure and forensic settings. The work is framed by a number of related contexts:

- i) *The forensic and secure context.* The environments and circumstances in which the research was conducted and to which the research applies provide a backdrop to the body of work. Specifically, the research was



conducted in the context of UK secure and forensic psychiatric care between 2004 and 2010.

- ii) *The professional disciplinary context.* The candidate's professional qualification and practice is in the field of psychiatric nursing, and thus the relevance of the work to and its implications for what has been termed forensic psychiatric nursing (Morrison & Burnard, 1992) provides the primary context. Much of the work has practice implications for clinical professionals of other specialty disciplines working within secure and forensic services including psychiatrists and psychologists.
- iii) *The evidence context.* Forensic psychiatric nursing is an emerging discipline within the field of forensic mental health. The submitted work can therefore be considered in the context of the current evidence base for this discipline, and in the context of how this evidence base is currently defined.
- iv) *The independent sector context.* The research presented was largely conducted within an independent sector setting outside of the UK National Health Service, namely at St Andrew's Healthcare, a unique charity-sector organization providing specialist secure mental health care to adolescent, adults and older adults with mental illness, learning disability and acquired brain injury.
- v) *The wider political context.* The research presented was conducted in an era largely comprising mental health care expansion, an issue inextricably intertwined with the independent sector context outlined in iv) above.. It was also conducted in an era increasingly dominated by targets, results and outcomes. In a cultural sense some would argue that the period also saw a



shift towards the micro-management of people's personal lives through the prism of health, perhaps best typified by the public smoking ban that commenced in England in 2007 and extended to psychiatric hospitals from July 2008.

This chapter expands on these contextual elements by outlining current conceptualizations of forensic psychiatric nursing and the related evidence base for the discipline in the UK; the development and current picture of secure and forensic care in the UK; and the independent sector role in UK secure provision. The rationale for this contextualisation is that there is intent to demonstrate that the body of work comprises a body of forensic psychiatric nursing knowledge. This means that the concept of forensic psychiatric nursing must be addressed. It is not the intention to undertake a formal concept analysis of the role, however current conceptualizations will be interrogated in order to determine whether a) the body of work described here fits within those definitions, or b) whether those definitions adequately define the area of forensic psychiatric nursing. Duncan *et al* (2007) have argued that shared understanding of the meaning of concepts is contextual and thus may change over time and between settings. The contextual explication of the research, from this viewpoint, will therefore be central to the understanding of the work as a body of forensic psychiatric nursing research. Contextualisation in this chapter sets the scene for Chapter 2 where the publications that form the central thesis are described, critiqued, and their specific contributions to practice identified. The final chapter of the thesis synthesizes the body of work presented in Chapter 2 with the contextual information presented in Chapter 1 in order to demonstrate the coherence of the research, common themes, and lessons to be drawn. The following cases are made:



- i) The body of work in itself represents a significant contribution to knowledge for psychiatric practice in secure and forensic environments.
- ii) The work can be understood as a contribution to the body of broadly defined forensic psychiatric nursing knowledge through definitions that emphasise the centrality of the nursing process, the professional discipline of the researcher, and the intended target audience of the journal of publication.
- iii) An examination of the research in relation to its contexts suggests that current conceptualizations of 'forensic psychiatric nursing' may not fully account for specialty practice in this arena. Specifically, future theories of nursing in this arena should be less exclusively forensic-orientated; should speak to all nurses who require expertise in the assessment and management of aggression, violence and other dangerous behaviour working at all levels of security (including none); should reflect the centrality of multidisciplinary working; should focus on the central importance of the patient's viewpoint and experience; and should inform the development and implementation of programmes of research to demonstrate effectiveness. A preliminary model is offered as an aid to understanding the area. This maps out the interfaces and overlaps between *forensic, secure* and *non-secure* practice arenas; and between *nursing* and *non-nursing* activity within these arenas.

In summary, the specific objectives of the thesis are:

- i) To identify the context(s) in which the empirical research submitted in support of this PhD has been conducted



- ii) To detail the research conducted, and to critically evaluate the extent to which it constitutes a significant body of forensic psychiatric nursing research with reference to its context(s)
- iii) To identify the implications of the work for the definition and role of the forensic psychiatric nurse

## **1.2 Contextual Background of the Research**

### **1.2.1 UK secure and forensic psychiatric services**

Secure psychiatric services provide inpatient care for people with a mental disorder that may put them at risk of harming either themselves or others (Department of Health, 2010). Forensic psychiatric services deal with issues arising at the interface between psychiatry and the law (Arboleda-Florez, 2006). There is considerable but incomplete overlap between the two. In the UK, secure services include forensic psychiatric inpatient services that are designed to provide care and treatment for people who have been diverted to mental health services from the criminal justice system, sometimes termed Mentally Disordered Offenders (MDOs), and who pose a risk to the public (Sainsbury Centre for Mental Health, 2007). High, medium and low secure psychiatric services provide, respectively, care and treatment for people with mental disorder who pose a grave and immediate danger to the public, for individuals who display dangerous behaviour and those who display disturbed behaviour (Sainsbury Centre for Mental Health, 2007; Department of Health, 2002, 2007).

The modern history of UK secure services can be dated to the introduction of the Mental Health Act of 1959. Prior to 1959 most psychiatric hospitals, known as County Asylums, had locked wards where MDOs who required secure care could be managed (Bluglass, 1978). A small number of high security hospitals provided



psychiatric care for MDOs who were considered so dangerous that they required care in conditions of 'special security'. The special hospitals, at that time, were Broadmoor and Rampton in England and, in Scotland, the State Hospital at Carstairs. The 1959 Act promoted an 'unlocked doors' policy which saw psychiatric hospitals become increasingly reluctant to admit potentially dangerous MDOs from the courts, or those felt to no longer need high secure care in the special hospitals. The 1975 Butler Report (Committee on Mentally Abnormal Offenders, 1975) supported recommendations to develop a network of Regional Secure Units, the precursors of current Medium Secure Units, to fill this gap in provision. Low secure units are a relatively recent addition with the development and auditing of standards in the past decade having led to greater consistency in provision (Dix *et al*, 2005).

The precise definitions and components of security in these various psychiatric care environments have become clearer in recent years, with the term currently considered to have three theoretical domains (Collins & Davies, 2005):

- *Physical security*: including perimeter fences or walls of particular heights dependent on security level, alarms, locks, doors and CCTV cameras
- *Procedural security*: relates to the procedures that take place within the physical security elements in order to maintain security integrity and includes restriction of items, searching of patients and the environment, frequency of patient observation, supervision and restriction of visitors, and staff to patient ratio.
- *Relational security*: refers to the detailed understanding of those who receive secure care including risk signals and behaviours, and skills to prevent and manage violence and aggression.



These theoretical domains have some transferability into real-world secure forensic psychiatric settings. A 22-item Security Needs Assessment Profile (SNAP) covering the three domains was developed to examine the security needs of male patients in low, medium and high-secure care (Collins & Davies 2005). Patients were rated by their Responsible Medical Officer or primary nurse on the 26 SNAP items and an overall rating was also made of the most suitable placement (High, Medium, Low or open security levels) for the patient irrespective of his current placement. Total SNAP scores for those thought to be best placed in high security were significantly greater than those felt to be best placed in medium or low security, suggesting that those needing high security care are a group with very special security-related needs. Scores for those thought to be best placed in open conditions were significantly lower than those thought to be best placed in low or medium security. There was an overlap of scores for individuals felt to be best placed in low or medium security and the authors suggest this may be due to shared characteristics of low and medium secure services. Thus it appears that UK secure services broadly reflect the security needs of their patients. However, Collins and Davies' results cannot be assumed to generalise to women who have been argued to have security needs quite distinct from those of men (Bartlett & Hassell, 2001).

Recent developments have highlighted the subtle differences between secure services and forensic services. These include the provision of mental health 'in-reach' services in prisons (Brooker & Gojkovic, 2009) which clearly deliver mental health care in a secure environment and in a forensic context, although in contrast to mental health services it is prison guards and not psychiatric nursing staff who are responsible for maintaining security. Other developments, such as community forensic mental health teams (Mohan *et al*, 2004) and work with victims of MDO's (Mezey, 2007) constitute



forensic services in that they involve work at the legal interface, but they are clearly not secure services. A range of services share some of the physical, procedural and relational security features of inpatient forensic services but their primary use may not be to provide care for convicted offenders. This includes Psychiatric Intensive Care Units (PICUs) and a range of other locked accommodation such as wards for both older people and adults with brain injury who display disturbed and aggressive behaviour.

Some secure forensic units will host patients who have never been convicted of a crime, including chronically disturbed patients who have been transferred from general psychiatric wards on civil sections (Pereira & Dalton, 2006). Thus Reed *et al* (2005) were able to study and describe the characteristics, and in particular the aggressive and violent behaviour of, 'forensic' and 'non-forensic' learning disabled patients in one UK low secure unit. This suggests that, at least to an extent, it is the care recipient who attracts the 'forensic' label and that it is not simply a function of the unit in which they happen to reside. Taken on its widest interpretation of work at the interface between psychiatry and the law (Arboleda-Florez, 2006) then any unit, including those in general adult services, where patients are detained under section of the Mental Health Act is providing a 'forensic' service. It may be concluded then that there is a degree of overlap between forensic, secure and general psychiatric services. Many writers agree that the common thread linking secure and forensic services is that nurses and others are required to balance the therapeutic needs of their patients with appropriate security considerations in order to protect the public (Storey & Bradshaw, 2000). This is a longstanding feature of psychiatric services; for example, Gournay *et al* (2008) remark that one of the key tasks of mental institutions has been



to protect the public since Bedlam, the 16<sup>th</sup> century forerunner of London's Bethlem Royal Hospital.

In conclusion therefore it can be stated that 'forensic' and 'secure' are not interchangeable terms, and that there is also a degree of overlap between what are termed 'secure services' and inpatient psychiatry more widely. Whilst these may appear to be merely semantic distinctions, it is the intention of this thesis to demonstrate that a broad definition of this zone of professional practice is required.

### **1.2.2 Forensic psychiatric nursing**

Different terms are commonly used to refer to psychiatric nurses who work in secure and forensic contexts: 'forensic mental health nurse' (National Forensic Nurses' Research and Development Group, 2008); 'forensic psychiatric nurse' (Lyons, 2009; Mason, 2002); 'forensic nurse' (Kettles & Woods, 2006). For purposes of brevity this thesis generally refers to 'forensic psychiatric nurses' except when referring directly to the work of a third party who themselves use a different term.

Dale *et al* (2001) suggest that forensic psychiatric nursing in the UK can be dated to the development of the first Criminal Lunatic Asylum at Broadmoor in 1863. The first period of development of the profession, largely conducted in high security hospitals and characterised by secrecy, lasted more than one hundred years until the development of Regional Secure Units in the wake of the Butler Report (Committee on Mentally Abnormal Offenders, 1975). A second period of development, lasting until 1996, saw the first descriptive accounts of forensic psychiatric nursing emerge (Benson, 1992; Burnard, 1992). Only from 1995 onwards were empirical accounts published (Robinson & Reed, 1996; Burnard & Morrisson, 1995) and in its modern



form forensic psychiatric nursing therefore dates back less than two decades. Mason (2002) concurred, stating that 'forensic' was generally accepted in the nursing literature from the mid-1980s as a term to refer to nurses working with MDOs in secure psychiatric services, but that it became a more all-encompassing term from the 1990s onwards and was used to refer to nurses working at other mental health-legal interfaces such as those working with victims of perpetrators of violence (International Association of Forensic Nurses [IAFN] 1999, p. 2). Kettles and Woods (2006) have usefully distinguished between 'victim' and 'perpetrator' forensic nursing, and in the UK it is generally members of the latter group who are understood to constitute the set of 'forensic psychiatric nurses'.

In 2001 Martin reviewed the literature on forensic psychiatric nursing and argued that in order for the profession to prove its claim to be specialised form of psychiatric nursing then it would need to demonstrate two things. First, what it is that these nurses do that is distinct from other psychiatric nurses and, second, what is therapeutic about it? Martin concluded that, at that time, there were few perceptible differences between the putative specialty of forensic psychiatric nursing and psychiatric nursing more generally (Kinsella & Chaloner, 1996; Robinson & Reed, 1996) and that the therapeutic value of forensic psychiatric nursing remained unproven.

A considerable literature about the role and specialist skills of the forensic psychiatric nurse has developed since Martin's review including literature reviews (Bowring-Lossock, 2006; Mason, 2002; Mason *et al*, 2008a, 2008b), edited books (National Forensic Nurses Research and Development Group, 2008), concept analysis of the role (Kettles & Woods, 2006), and empirical investigations (Mason *et al*, 2008a, b;



Mason *et al*, 2009a, b). The special or distinguishing skills or attributes of forensic psychiatric nurses are commonly reported to be the balancing of physical, procedural and relational security needs with therapeutic needs (Dale & Storey, 2004; Mason, 2002), teamwork or multi-disciplinary approaches (Dale & Storey, 2004; Kettles & Woods, 2006), and risk assessment and management (Bowring-Lossock, 2006; Kettles & Woods, 2006) with particular reference to the management of inpatient violence (Mason *et al*, 2008a).

Kettles and Woods (2006) conducted a concept analysis of 'forensic' nursing with the aim of clarifying the nature of the role. Arising from this Kettles and Woods proposed a definition of 'forensic' nursing as being a role that integrates evidence from general psychiatric nursing and psychology with specific forensic knowledge about the criminal justice system, risk, and safety that is applied to practice both in secure settings and in the community. Their definition encompasses evidence-based practice, multidisciplinary working, and family and significant other-oriented work. Their model case of the forensic nurse was identified as having the following characteristics:

- Registered Mental Nurse (RMN) or Registered Nurse for the Mentally Handicapped (RNMH) trained
- Experienced (eight years) in a high security environment with personality-disordered , substance misusing patients
- Post registration certificate in substance misuse and masters degree in interventions with this group
- Planning to undertake a specialist 'forensic' qualification as either a diploma or doctorate.



- Skilled in individual and group work with forensic patients
- Involved in external working groups on education for those working in forensic settings
- Skilled in forensic assessment using Structured Professional Judgement and actuarial instruments, and translates this into appropriate risk management and treatment selection decisions

The model case above clearly has characteristics including *qualifications*, *knowledge*, *experience*, and *competencies* that are relevant to professional practice in a secure forensic setting. Kettles and Woods then differentiated the 'model' forensic nurse from a *borderline* case, for example an RMN employed in a medium-secure unit but with no postgraduate forensic training, and from an *alternative* case of an RMN working in elderly care who only uses skills learned in pre-registration training. The degree of similarity of any nurse to the model case, and thus the appropriateness of the 'forensic nurse' label, is judged with reference to attributes that are shared with the model case. These attributes are argued to lie in three specific areas: i) risk assessment, ii) professional, legal and ethical aspects of care, and iii) interpersonal competencies.

Concept analysis therefore facilitated Kettles and Woods' (2006) rich and flexible definition of forensic psychiatric nursing. Interestingly, however, whilst some theorists (Walker & Avant, 1988) claim that concept analysis is a necessary precursor to theory building, that is to say that the clarification of the concept must happen before further theoretical work can ensue, others feel that theoretical commitment is itself a precursor of concept analysis (Paley, 1996). In support of this view Kettles and Woods refer to many of their own works in their explication of the concept of the



forensic nurse; however, this may be inevitable in an emerging field. Additionally, Duncan *et al* (2007) have noted that concept analysis is relativist inasmuch as it does not attempt to create a fixed meaning but rather to create a useful understanding of the shared meaning of a concept within a specific context. This thesis will argue that the contextual information surrounding the submitted research suggests that Kettles & Woods (2006) definition of forensic psychiatric nursing may need to be re-examined. Alongside this theoretical critique a number of practical observations can be made about Kettles and Woods' definition of forensic nursing. First, the model case forensic nurse proposed is clearly aspirational; the model is so well endowed with experience and qualifications that it is unclear to what extent the specialist epithet 'forensic nurse' is generalisable to other nurses who work in similar settings. Specifically, what proportion of those who work in secure and forensic services could be defined as forensic nurses? This question has implications for research into the effectiveness of interventions delivered by this group because an operational definition with explicit inclusion and exclusion criteria is still required. Second, it is not entirely clear what it is that distinguishes this specialist forensic nursing role from that of those engaged in other areas of professional practice. Presumably, psychiatrists, psychologists, occupational therapists and others working in forensic environments would claim expertise in the three specialist forensic attributes listed by Kettles and Woods, namely risk assessment, legal issues and interpersonal competencies. Third, it is not entirely clear why the model forensic nurse is defined as having such extensive experience in high secure environments and largely with patients with a diagnosis of personality disorder when this contradicts the reality of UK secure psychiatric services. Medium secure beds outnumber high secure beds by a ratio of 4:1 in England and Wales (Sainsbury Centre for Mental Health, 2007) and most (76%)



detained patients in secure services are diagnosed with a mental illness with or without other disorders rather than solely with psychopathic disorder (12%, Sainsbury Centre for Mental Health, 2007). Nevertheless, taken in its widest sense Kettles and Woods (2006) definition of forensic nursing is flexible and multi-dimensional. Whether this definition will aid with the future evaluation of the effectiveness of the role remains to be seen.

A different perspective on forensic psychiatric nursing emerges from two strands of empirical research conducted by Mason and colleagues (Mason, 2002; Mason *et al*, 2008a, 2008b; Mason *et al*, 2009a, 2009b). This body of work assumes *as a starting point* that forensic psychiatric nurses are simply psychiatric nurses who work in UK low, medium and high secure psychiatric services. The clear strength of this approach is that it provides an operational definition of a relatively large and accessible population with whom empirical research can be conducted about the psychiatric nursing role in these environments.

Mason *et al* (2008a, 2008b) surveyed more than 1,000 forensic psychiatric nurses, defined as nurses working in low, medium and high secure psychiatric hospitals, plus other general psychiatric nurses, defined as psychiatric nurses outwith the preceding group, and participants from other disciplines. They asked about the role dimensions of forensic psychiatric nurses, and about the clinical aspects of the role. Forensic and general psychiatric nurses both reported that *experience, empathy, listening, and patience* are key role strengths; both reported that key skills include *listening and communication*. There were clear differences between non-nurses and both forensic and general psychiatric nurses about nursing roles: non-nurses viewed *clear boundaries, monitoring medication and ability to work with low staff to patient ratios*



as key forensic nursing strengths, but these issues were rarely mentioned by nurses. Comparisons were not made between forensic nurses in high, medium and low security and thus variation within the forensic nursing role could not be examined. However, a second strand of research (Mason, 2002; Mason *et al*, 2009a, 2009b) facilitated such comparisons.

Mason (2002) viewed the forensic psychiatric nursing role as underpinned by a collection of domains of practice, characterised by binary oppositions constituting role tensions, namely: *medical vs. lay knowledge*, i.e., the extent to which forensic nurses employ medical theory or lay perspectives to explain patient behaviour; *transference vs. counter-transference* i.e., the positive feelings associated with facilitating change vs. the negative feelings associated with some forensic patients and their crimes or misdemeanours; iii) *win vs. lose*, i.e., feelings of control, or lack of control, that are related to the perception of whether particular interactions with patients have been ‘won’ or ‘lost’; iv) *success vs. fail*, i.e., whether staff feel they are therapeutically effective; v) *use vs. abuse*, i.e., whether staff feel they are viewed as therapeutically effective; vi) *fear vs. confidence* related to the daily possibility of violence in the work setting of the forensic psychiatric nurse.

In later work, statements were developed relating to each pole of the six binary constructs with responses measured on a seven-point likert scale (Mason *et al*, 2009a, 2009b). Development of the tool was detailed, with involvement of independent forensic psychiatric nurses in development, pilot testing, and test-retest reliability checking. The resulting questionnaire was completed by 416 qualified forensic psychiatric nurses working in UK low, medium and high secure psychiatric services. Analysis demonstrated numerous statistically significant differences between the



ratings of staff working at the three different security levels although the authors concluded that they cannot explain exactly why this was the case. In brief, nurses working in high security agreed more with statements on the *win-lose* axis, suggesting greatest need for control in these settings. Nurses working in all levels of security tended to endorse *lay* explanations of patient's behaviour and to reject *medical* reasoning, this particularly being the case in high security settings; the researchers speculated that this may indicate a perception among nurses working in high security settings that this highly selected group of patients are not amenable to treatment. High secure nurses report more *fear* and less *confidence* which is unsurprising given the particular security needs of the patient population.

The results of Mason *et al's* (2009a, 2009b) binary construct analysis demonstrated that nurses working in low secure services differed significantly from those working in high secure services on most items. They were more likely to accept *medical* explanations and less likely to accept *lay* explanations about patient behaviour; they agreed less with statements about both *transference* and *countertransference*; they agreed less with statements representing the *win* factor; they agreed more with statements about *success* and less with those about *failure*; similarly they felt that they were viewed as therapeutically effective ('*use*') rather than ineffective ('*abuse*'); finally, they were significantly more *confident* and felt less *fear*. Medium secure nurses were more like high secure nurses on *transference* and *countertransference*, but there was no pattern where medium secure nurses sat directly in between the two other security levels.

Mason's studies are interesting because they demonstrated measurable and observable differences on role tensions between nurses working in different levels of security.



However, it is not made explicit what implications the role tensions proposed have for nursing practice. For instance, it is not elucidated whether a strong culture of either *medical* or *lay* explanations about patient's behaviour is desirable. Presumably it would be beneficial for nurses to view themselves as therapeutically effective (high ratings on '*use*') but it is unclear whether this view is objectively related to the actual therapeutic effectiveness of nurses in secure and forensic environments. However, the results do suggest that nurses working in high secure settings hold a significantly different set of beliefs about their role than those in low secure environments.

Although the link between beliefs and practice is not clear we can speculate that, if beliefs do reflect roles, then there may be fundamental qualitative differences between low and high secure psychiatric nursing roles such that they do not fall under the same category membership. One way of interpreting this is that, if Mason *et al*'s role constructs are accepted as accurately reflecting the key elements of forensic psychiatric nursing, then it is not at all clear to what extent nurses working in low secure environments are 'forensic' nurses in the same way as those who work in high secure environments. Furthermore, whilst Mason *et al*'s operational definition of forensic psychiatric nurses facilitates research into the role it is not clear to what extent his nurse participants would meet the definition of forensic nurse, that is to say the extent to which they possess the experience, competencies and qualifications suggested by Kettles and Woods (2006). Kettles and Woods are championing a highly specialist role whilst Mason and colleagues appear to be describing those who practice their nursing in secure environments. Mason *et al* have not currently explored whether the overall profile of nurses who work in secure settings distinguishes them from other professional practitioners in similar settings, nor whether forensic psychiatric nurses differ from general psychiatric nurses on their measures of role



tension. This could be one potential way of attempting to distinguish a clear nursing role in the secure and forensic arena.

To summarise, in the UK there appear to be competing definitions of forensic psychiatric nursing. One describes a decidedly specialist role with particular skills in risk assessment and management, considerable legal knowledge and highly developed interpersonal competencies (Kettles & Woods, 2006) while a second defines the role pragmatically and in relation to nursing practice in specific secure environments (Mason, 2002). It is therefore problematic to simply refer to ‘forensic psychiatric nursing’ as if there were one commonly understood definition. Empirical studies of ‘forensic psychiatric nursing’ largely employ definitions similar to Mason’s (Carrion *et al*, 2004; Mason *et al*, 2009a, 2009b, 2010; Timmons, 2010) which is thus perhaps more likely to gain common currency over Kettles and Woods (2006) more esoteric conceptualization. However, empirical investigation of forensic psychiatric nurses so defined on the role tensions that purportedly characterise the role has offered no compelling evidence of differentiation from general psychiatric nurses. On the contrary, there is some evidence that there are wide variations between those working in high secure environments and those in lower security services. The epithet ‘forensic psychiatric nurse’ may therefore be inappropriate for those who work in some secure environments. Furthermore, there is little empirical evidence that reliably distinguishes the specialist forensic psychiatric nursing role from that of other practitioners in the secure and forensic mental health arena. In fact the role dimensions thought by non-nurses to best identify the forensic psychiatric nursing role (boundaries, medication monitoring, ability to work with low staff: patient ratios) were rarely mentioned by nurses in Mason’s (2008a, 2008b) studies.



### 1.2.3 The evidence base for nursing practice in secure and forensic care

Forensic psychiatric nursing is an emerging discipline within the broader field of forensic mental health. As outlined above, there has been considerable discussion and some research about the *role* of the forensic psychiatric nurse, but less work around the evidence *for* that role. In short, less is known about the effectiveness of the role and, to an extent, it is unclear how the body of forensic psychiatric nursing research should be defined and what its key elements are. This section discusses how the evidence base for the discipline can be understood and defined.

Exploration of the broader and more mature discipline of general psychiatric nursing suggests that its own evidence base is defined in various ways. Reviews of psychiatric nursing research (Davis, 1981; Fox, 1992; Jones & Jones, 1987a,b; McCarthy *et al*, 2006; Merwin & Mauck, 1995; Sills, 1977; Zauszniewski & Suresky, 2004) have used an assortment of inclusion and exclusion criteria to define the body of knowledge. Yonge *et al* (1997) argued that psychiatric nursing research should address ‘an aspect of the nursing process’; other reviews have used operational criteria that include only those studies published in nursing journals (Jones & Jones, 1987a; Zauszniewski & Suresky, 2004) or where authorship is by a nurse (McCarthy *et al*, 2006); Merwin & Mauck (1995); whilst at least one simply used their own judgement to identify studies that constituted psychiatric nursing research (Sills, 1977).

The definitions used to define the body of knowledge for psychiatric nursing practice therefore do not seem particularly satisfactory and all have weaknesses. Those reviews which define psychiatric nursing research in relation to the nursing process (Yonge *et al*, 1997) explicitly exclude from the evidence base studies of nurse’s own



behaviour and attitudes, and studies of nursing education. It is likely that any review of forensic psychiatric nursing research that was operationalised in relation to the nursing process, and thus excluded studies of nursing roles, would be limited. For example, Mason (2009a) has commented that there is a paucity of literature on forensic psychiatric nursing that could broadly be defined as experimental, and presently there is no available systematic review of the effectiveness of forensic psychiatric nursing interventions equivalent to Curran and Brooker's (2007) systematic review of the effectiveness of general psychiatric nursing interventions. Reviews which place the publication's title or its intended audience as the defining feature of psychiatric nursing research may unreasonably exclude important nursing-related and nurse-led research studies. Finally, reviews which simply define their evidence base on their own judgement (Sills, 1977) run the risk of bias. Given the failure to satisfactorily delineate a more mature field, it is therefore unlikely that an operational definition of 'forensic psychiatric nursing research' can be easily constructed against which to ascertain whether the body of work submitted in this thesis can be described as a body of work in the field of forensic psychiatric nursing. However, in Chapter 3 the extent to which the work submitted in support of this thesis meets some of these criteria is critically examined.

There is, however, room for some optimism that rigorous criteria can be constructed and deployed to delineate areas of practice that are related to the work of forensic psychiatric nurses and used to investigate the effectiveness of the role. Woods and Richards (2003) conducted a systematic review of the effectiveness of nursing interventions with people diagnosed with personality disorder. Whilst the study does not claim to be either a review specifically of forensic nursing interventions, or of interventions conducted solely with legally defined forensic patients, it is clearly



related to the work of forensic psychiatric nurses. Woods and Richards concluded that the evidence-base in this area is weak; in particular, the evidence for the effectiveness of nursing management is poor compared with that for psychological approaches where both nurses and other practitioners are delivering the intervention. This finding appears to indicate a lack of evidence for the effectiveness of specific nursing interventions with this population. Indeed, the apparent lack of effectiveness for nursing interventions means that nurses might be best advised to look outside of the nursing literature for the best evidence.

Other research studies indicate a lack of breadth and depth of evidence for forensic psychiatric nursing. Carrion *et al* (2004) have demonstrated that forensic psychiatric nurses report that the major barriers to utilising research are i) that the relevant research is not compiled in one place, and ii) that they do not feel the results of research are generalisable to their own setting. Gildberg *et al* (2010) highlighted that, in an area key to forensic psychiatric nursing, namely *staff-patient interaction*, only seven studies involving patients as participants had been conducted. All were qualitative interview or questionnaire studies that attempted to describe the nature of staff-patient interactions rather than attempting to evaluate the effectiveness of those interactions. In summary, academic concentration on the *role* of the forensic psychiatric nurse has not been mirrored by equivalent focus on the effectiveness of nursing interventions with forensic and secure patient groups. Martin's (2001) exhortation to demonstrate the effectiveness of forensic psychiatric nursing in support of its distinct identity therefore does not appear to have been fully achieved.



#### **1.2.4 The UK independent mental health sector**

The final contextual element of the work submitted in support of the current thesis is its situation within a non-NHS setting. The UK independent health sector comprises all non-NHS facilities including commercial enterprises and ‘not for profit’ services. The inception of the modern independent sector can be traced to the years following the second world war (Sugarman, 2011). At that time there were around 160,000 inpatient beds in England for people with mental illness (Green 2009), although these were largely provided in unsuitable and decaying asylums, and used treatments with little evidential value including lobotomy and electroconvulsive therapy (Mashour *et al*, 2005). From the 1950s, the introduction of medicines such as chlorpromazine facilitated the dismantling of most of these beds with around 40,000 remaining by the 1980s (Sugarman, 2011). The formation of the NHS in 1948 brought almost all existing local authority and charitable hospitals together, with just four (including St Andrew’s Hospital, Northampton) charitable hospitals forming a nascent independent sector providing specialist services for people with challenging behaviours who did not require the highest security in the NHS-run special hospitals. As now, the independent sector provided care for NHS patients on a contractual basis with surplus monies returned to investors in the form of share bonuses in for profit providers and re-invested in services for non-profit providers such as The Retreat and St Andrew’s Hospital. The need for beds at lower levels of security (see 1.2.1) and the consequent emergence of Regional Secure Units (RSUs) in the 1970s was in part met by the growth of the independent sector, particularly from the late 1980s onwards, who specialised in providing care for long-term, hard-to-treat patients that local NHS units were unable or unwilling to manage (Sugarman, 2011). Simultaneously, despite the intention behind the RSU network, few patients were admitted from general



psychiatric hospitals because the spaces were filled by transfers from the high secure hospitals and from prison (McKenna, 1996). As a result there was piecemeal development of local, closed units provided by both the NHS and independent sector which, due to shortage of beds in the medium-secure RSUs, became *ad hoc* admission units for individuals with serious offending histories (Beer et al, 1997). A subsequent development of national standards for low-secure units (Department of Health, 2002; 2008) means that forensic mental health services are now provided at levels of high (800 beds; Sainsbury Centre for Mental Health, 2007), medium (3,500 beds; Sainsbury Centre for Mental Health, 2007) and low security (1,583 beds; Pereira *et al*, 2006).

Currently, the independent sector provides 13.7% of all inpatient mental health beds in England & Wales (Raleigh *et al*, 2008). Patients in independent sector provision are younger, more likely to be detained and more likely to be in secure provision compared with those in NHS services (*ibid*). This reflects the fact that the independent sector plays a large role in the secure mental health market, providing approximately 35% of medium secure capacity (Sainsbury Centre for Mental Health, 2007), 27% of secure adolescent mental health inpatient capacity (O’Herlihy *et al*, 2007). Some highly specialist locked or secure settings, for example for people with acquired brain injury and extreme challenging behaviour who require neurobehavioural rehabilitation, have all inpatient beds are in effect provided by the independent sector (Royal College of Physicians, 2010). This share of secure beds provided by the independent sector appears to be much greater in highly specialist niche areas, for example the independent sector is the commonest provider of ‘high cost’ services for people with learning disability, i.e., those displaying the most challenging behaviour (Hassiotis *et al*, 2007). There has been a small increase in the share of secure beds



provided by the independent sector but a large increase in the total number of secure beds since 2001 (Jaycock & Bamber, 2001). This has occurred in an overall context of declining numbers of non-secure inpatient psychiatry beds (Keown *et al*, 2008). The independent sector therefore plays an increasingly important role in the UK mental health care market. Furthermore, there is data to indicate that the low and medium secure independent sector population differs from its NHS equivalent. Moss *et al* (1996) compared patients admitted to NHS and independent sector medium secure units and concluded that the latter providers demonstrated increased flexibility in terms of admitting patients deemed to present exceptional management problems. As described above, independent sector providers are increasingly prominent in highly specialist niche service provision. Moss (1999) has argued that the independent sector is now providing services that are unavailable in the NHS, namely long term care in conditions of security (or for those who simply cannot live independently including those with dementia. In contrast, Deery & Raleigh (2008) have shown that care quality data is lacking in quality to compare the *quality of care*, as opposed to the *population cared for*, in independent sector providers relative to their NHS counterparts. The NHS is currently the sole provider of high secure services and thus provides care and treatment for those deemed to be the most dangerous MDOs. However, this population has declined from 1859 in the early nineties (Butwell *et al*, 2000) to approximately 653 in England in 2007 (Sainsbury Centre for Mental Health, 2007). There are therefore indications that in growing areas of provision, namely medium and low secure care, and particularly in specialist niches, secure care is increasingly provided by the independent sector. Furthermore, many of the most challenging patients cared for within this sector.



All of the submitted empirical work was conducted during the author's employment by St Andrew's Healthcare, a charity and leading UK independent sector provider of specialist mental health care. A considerable portion of the work was conducted across its extensive secure care pathways. St Andrew's is unique in that it represents in microcosm the UK specialist secure mental health sector in its widest definition on one site: services for adolescents, adults and older adults with mental illness, learning disability or acquired brain injury in conditions of low, medium and open security.

### **1.2.5 The political context**

The research was conducted entirely in the latter part of a period of health care expansion in the United Kingdom under successive Labour governments. The Labour government elected in 1997 had committed to remaining within the published spending plans of the previous Conservative government for a period of two years. This had led to widespread public discontent (Pollock, 2004: 66), but by 2000 fiscal surpluses allowed this cap to be lifted and Labour committed to significant increased spending in line with the NHS Plan (The Stationery Office, 2000). Net expenditure on the NHS in England increased from £59.8 billion in 2001/2 to £102 billion in 2007/8, an average rise per year in real terms of almost 7%. (House of Commons Library, 2009). This increase was reflected in spending on mental health services (Sainsbury Centre for Mental Health, 2007). The NHS Plan (2000: 96) which ushered in spending increases made it explicit that 'ideological boundaries or institutional barriers should not stand in the way of better health care for patients... The private and voluntary sectors have a role to play in ensuring that NHS patients get the full benefit from this extra investment'. As a result, and as demonstrated in 1.2.4 above, the independent sector has played an increasingly large role in the provision of secure



mental health care in England. Concurrently, enhanced spending became increasingly regulated through the establishment of National Service Frameworks (including for mental health, Department of Health, 1999) with outlined protocols and service arrangements; and through the creation of quasi-governmental agencies including the National Institute for Clinical Excellence (NICE) to assess the effectiveness of drugs and medical technology, and the Commission for Health Audit and Inspection (CHAI) a unified body to regulate both public and private/ independent sector care. In particular the period saw an increasing emphasis on delivering measurable outcomes including for mental health patients (Holloway, 2002). However, it also saw more co-ordination, research and policy directed at issues including inpatient aggression and violence (e.g., NICE [2005] guidelines on the short-term management of violent behaviour), patient safety (creation of the National Patient Safety Agency in 2001), and arson (e.g., ODPM, 2002).

Alongside increased expenditure and regulation, the period during which the research in this thesis was undertaken also saw a continuation of a trend in recent years of increasing state management of people's personal lives. Writers including sociologist Frank Furedi (2003) have noted that this is a symptom of the post-cold war collapse of politics' traditional struggle between left and right, and the end of grand competing visions of the good society. Left in its place are 'micropolitics' which are essentially managerialist, technocratic and 'evidence-based'. In health care this has seen the rise of a 'new public health' (Fitzpatrick, 2000) which has aimed to regulate lifestyle often based on statistics from epidemiological studies which can confuse association with causation (Skrabanek & McCormick, 1989). Furthermore, epidemiology tends to be dominated by so-called 'objective' factors, in particular the statistics of morbidity and mortality, and ignore 'subjective' factors including, crucially, people's beliefs,



attitudes, feelings and freedom to choose to act in ways that are not optimally beneficial to them on (Charlton, 2001). Two published studies included within the thesis pre-dated the public smoking ban which came into force in England in 2007, and a year later in psychiatric hospitals, a result of the Health Act (2006). Importantly, the Act did not provide for a ban on smoking in outdoor areas of hospitals, and it made exempt from the ban residential premises including prisons but not secure hospitals.

### **1.3 Contextual summary and thesis objectives**

The contextual issues outlined in 1.2.1 to 1.2.5, namely secure and psychiatric care provision, forensic psychiatric nursing, the research evidence base for nursing interventions in these settings, the UK independent sector healthcare market and the wider political context provide the background for the empirical work submitted. The thesis is intended to be understood in relation to 'secure and forensic psychiatric care' in the widest possible sense because, whilst elements of the work have implications exclusively for those currently working in, or providing, secure inpatient services, other elements have practice implications for mental health professionals who come into contact with people who may require secure psychiatric services.

The research presented is concerned with both users of services, that is to say patients, and providers of services such as nurses and other clinical practitioners. Research methods were utilised that were suitable for the research questions posed and all sit within a positivist epistemological framework. In Chapter 3 it will be argued that the work should be considered in its entirety as a contribution to the field of forensic and secure psychiatric nursing and forensic and secure psychiatric care in general.



## **Chapter 2. Review of publications**

This chapter reviews the research submitted and is organised by research topic: firesetting, medication administration and errors, violence and aggression, staff and patient views on smoking, and secure psychiatric service outcomes. Each of these topical themes is illustrated by two papers which are presented in full in Appendix I. Related publications, citations, other dissemination and related professional activities for each topical area are detailed in Appendix II.

### **2.1 A note on the author's contributions to each published study**

The ten submitted empirical papers are dual or multi-authored (range 2 to 6 authors), and the candidate is the lead author of eight. The International Committee of Medical Journal Editors (ICMJE) state that an "author" is generally considered to be someone who has made a substantive intellectual contribution to a published study: "An author must take responsibility for at least one component of the work, should be able to identify who is responsible for each other component and should ideally be confident of their co-author's ability and integrity" (ICMJE, 2009). Authorship credit should be based on meeting the following conditions:

- 1) Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data.
- 2) Drafting the article or revising it critically for important intellectual content.
- 3) Final approval of the version to be published.

Furthermore, Newman and Jones (2006) have argued for first authorship of a research paper to be the right of the author of the first draft of the paper. These criteria are used



within this chapter as the basis for assessment of the candidate's published contribution submitted as part of this doctoral thesis.

## **2.2 Research related to firesetting**

Dickens, G., Sugarman, P., Ahmad, F. *et al* (2007) Gender differences amongst adult arsonists at psychiatric assessment. *Medicine Science and Law*, **47**, 233-238. [Paper 1]

Dickens, G. Sugarman, P., Edgar, S. *et al* (2009) Recidivism and dangerousness in arsonists. *Journal of Forensic Psychiatry and Psychology*, **20**, 621-639. [Paper 2]

One in a hundred United States adults has a self-reported lifetime history of deliberate firesetting and for 38% of these the behaviour persisted beyond the age of 15 years (Blanco *et al*, 2010; Vaughan *et al* 2010). Based on US population figures (US Census Bureau, 2010), there are approximately 1 million US adults who have deliberately set fires since age 15 and in the UK the figure would approach 200,000 (Office for National Statistics 2005). Arson, defined as the crime of deliberate firesetting as opposed to the simple behaviour of lighting fires, accounts for 36% of all fire-related economic costs, amounting to £2.53 billion in England and Wales in 2004 (ODPM, 2005). It has long been established that the typical firesetter is young and male (Lewis & Yarnell, 1951), but in reality they are a heterogeneous group cutting across categories of gender, age and intellectual ability. One in six firesetters is female (Blanco *et al*, 2010); half of intentional firesetting brought to professional's attention is committed by adults (Cassel & Bernstein, 2007); and Enayati *et al* (2008) have reported learning disability to be a feature in 10% of males and 9% of females convicted of arson and referred for forensic psychiatric examination. Therefore, it is important to try to distinguish between subgroups of firesetters in order to inform the



assessment of future risk. A favoured approach to firesetter differentiation, and one that drove a considerable amount of inquiry from the 1970s to the 1990s, was typology based on motivation, that is “the driving force or forces responsible for the initiation, persistence, direction and vigour of goal directed behaviour” (Colman, 2009). More recently, motivational classification has been viewed as flawed (Gannon & Pina, 2010), primarily because *motives* like revenge are often confused with *characteristics* (such as institutionalisation); but also because entirely different cases of firesetting, such as fires endangering and not endangering life, can be conflated under one heading such as revenge (*pace* Soothill, 1990).

Surprisingly little research has been undertaken to differentiate between broader, naturally occurring groups of firesetters such as by gender or intellectual ability; or more and less dangerous firesetters i.e., those who repeatedly set fires, and those who set the most dangerous, potentially life-threatening fires. Gannon (2010) has noted the paucity of research on female arsonists that uses adequately matched controls of offending females or male arsonists. Only one previous study (Harris & Rice, 1996) had attempted to specify the characteristics of the most dangerous firesetters. Harris and Rice (1995) examined 243 male mentally disordered firesetters (mean age 28.7 years, mean IQ = 93) admitted to a maximum security psychiatric institution for firesetting over an 11 year period and found that 20 (8%) index fires had led to high levels of injuries and property damage. There were few differences across a range of childhood and adult variables between those involved in the most and less destructive fires except for youth and presence of an extensive firesetting history.



Firesetting is a feature of a significant proportion of those people who come into contact with psychiatric services. Psychiatric morbidity is common among those convicted of arson (Anwar *et al*, 2009; Enayati *et al*, 2008), and in order to assist in their determination of disposal, the courts are generally inclined to call for psychiatric reports in all but the most straightforward cases (Prins, 2005; *R v Calladine [1975]*). Whilst those referred for psychiatric referral may not be representative of all firesetters because, arguably, they comprise a subset of unsuccessful firesetters who get caught. However, they do represent a majority of those who are apprehended. In the UK, case law (*R v Hoof [1980]*) has established that there should be separate counts relating to arson with intent to endanger life, arson reckless as to whether life was endangered, and simple arson. In effect, the court should attempt to distinguish reckless and intentional firesetting, a final decision being made by the jury. Further, this distinction will be reflected in sentencing, and cases of arson with intent to endanger life and/or aggravating features including premeditation are punishable by 8 to 10 years in prison, or even with indeterminate sentences (Averill, in press). Practitioners, chiefly forensic psychiatrists but also others, are required to make informed judgements about the presence or absence of mental disorder in referred firesetters, and to comment about risk of future offending.

In these two linked studies (Papers 1 and 2, Dickens *et al*, 2007, 2009) a retrospective, observational case-controlled survey design was employed. Sociodemographic, family and psychiatric history data from variables identified as relevant in previous studies was extracted from the clinical case records of 167 (23%,  $n=38$  female) adults referred to West Midlands forensic psychiatry service over a 24- year period for assessment following an episode of firesetting. The main advantage of this design was that retrospective review facilitated the relatively rapid acquisition of large amounts



of data that was collected over a long period; in this instance data was based on the records of those assessed over a 24- year period even though arson accounted for 10% of all referrals. The main disadvantage is that the research is reliant on accurate record-keeping. Two thirds of notes used in this study were rated as being of good quality, 30% as of moderate quality and the remaining seven sets of notes as poor quality. Another limitation is that, while the sample which comprised half of those referred over the period, was selected randomly, the population of those referred is almost certainly not representative because only unsuccessful firesetters are apprehended. Retrospective studies like this one can only answer questions about association and not about causality. Despite the numerous studies of firesetting motivation (Icove & Estep, 1987; Inciardi, 1970; Kidd, 1997; Lewis & Yarnell, 1951; Prins, 1994; Rautahimo, 1989; Ritchie & Huff, 1999; Rix, 1994), all based on similar retrospective case information, it was found to be very difficult to ascribe motive.

### **2.2.1 Gender and firesetting (Dickens *et al*, 2007):**

There are a limited number of studies that compare female firesetters with an appropriate control group. One potential control group, comprising women who were referred for assessment following apprehension for other crimes, was considered for this study but rejected. However, this author has recently, with others, conducted a complementary piece of work [Long *et al*, in press] to examine differences between firesetters and non-firesetters in a female inpatient secure psychiatric service. In her recent comprehensive review of the literature on female arsonists, Gannon (2010) was able only to identify four studies (Dickens *et al*, 2007; Icove & Estep, 1987; Lewis & Yarnell, 1951; Rix, 1994) that compared male and female firesetters across a range



of variables and Dickens *et al* (2007) was “unique” (Gannon, 2010: 180) in its use of inferential statistical analysis. Dickens *et al* (2007) is marginally the largest gender comparison study of firesetters referred for psychiatric assessment; Rix (1994) reported on  $N = 153$  (16%,  $n=24$  female) firesetters, and the remaining two studies are based primarily on insurance reports (Lewis & Yarnell, 1951) and on police interview data (Icove & Estepp, 1987).

The novel contribution of this work was to add empirical evidence to an emergent picture of differentiation between men and women who deliberately set fires. Women firesetters are more heterogeneous than males in terms of age. Women were less versatile in their overall offending than men e.g., less prior offending, fewer convictions for theft and vehicle offences. Interest in the phenomenon of fire itself seemed to be less prevalent among women; suicidal or parasuicidal elements were more frequently present in women. We also highlighted the high risk for women firesetters to have a history of reported childhood abuse relative to males. Whilst the evidence base regarding treatment and intervention with adult arsonists is very thin (Palmer *et al*, 2007; Hollin, in press), and there probably is overlap between the treatment needs of men and women (Gannon, 2010), the differences supported by findings from this research suggest some differential needs in terms of treatment strategy. Women in particular may require more intervention aimed at ameliorating the effects of previous victimisation and abuse. Given that this abuse is likely to have occurred at the hands of men then gender specific treatment pathways are indicated.



### 2.2.2 Firesetting recidivism and dangerousness (Dickens *et al*, 2009)

‘Risk’ is understood in multiple ways. In the field of mental health it is generally taken to refer to potential adverse events involving violence and aggression or self-harm. More precisely, risk comprises elements including the prediction of the likelihood of dangerous behaviour based both on actuarial data and clinical experience, and on the potential destructiveness or the consequential severity of the behaviour (Gunn, 1982, 1993; Kettles, 2004; Pagani & Pinard, 2000). One way of understanding forensic risk, therefore, is as a product of the likelihood of repeated dangerous behaviour or *recidivism* and the potential severity or *destructiveness* of that behaviour in terms of death, injury or psychological distress (Doyle, 1999; Kettles, 2004).

The term ‘dangerousness’ to denote the product of the actuarial likelihood of repeated risk behaviour and the severity or destructiveness of that behaviour of has fallen out of favour in recent years (Kettles & Woods, 2006). However, it is a useful shorthand way of conceptualising some of the constituent elements of risk, and one which we employed in this study. Recidivism among firesetters had been studied previously (see Brett, 2004 for a review, and Dickens *et al*, 2009) though rarely with a data set comprising variables specifically derived from previous literature on firesetting recidivism. Furthermore, in this study statistical tests were employed to identify significant differences between recidivist and non-recidivist firesetters on a range of variables validated by psychiatrists as indicating varying degrees of dangerousness (see Sugarman & Dickens, 2009), and regression analyses were employed to identify the variables that predict recidivism. This is the only study in the extant literature to employ this useful method of analysis in relation to firesetting recidivism (Gannon &



Pina, 2010). However, we took as a starting point Soothill's (1990) assertion that categorisation of firesetters by motivation means that very different firesetting activities may be conflated under a motivational type, and this is elucidated in depth in Dickens & Sugarman (in press).

The central study hypotheses tested the characteristics of i) individuals defined as recidivist or multiple firesetters compared with one time only firesetters and ii) individuals defined as setters of severe fires, i.e., those fires causing extensive property damage or threat or actual loss of life or major injury, when compared with those who set less severe fires. Results suggested that recidivism was not associated with previous setting of *serious* fires, but that specific firesetting behaviours are: notably multiple-point firesetting and the use of accelerants. Although very few individual characteristics were associated with the setting of severe fires, the discriminant function analysis identified previous violent/sex offences as predictive of severe firesetting but not of recidivist firesetting. This supports previous research that indicated that a discrete sub-group of arsonists are violent offenders (e.g., Jackson *et al*, 1986). Whilst it has been traditional received wisdom that all fires are potentially deadly (Barker, 1994) and, as a corollary, there is little value in distinguishing between more and less serious fires, this finding suggests that those who have set more serious fires are probably the more dangerous group. This lends empirical support to claims (Gannon & Pina, 2010; Webster *et al*, 1997) that risk assessment for firesetters should treat the behaviour as a violent offence or as a property offence as appropriate. Although it remains very difficult to predict which firesetters will set serious fires in the future this work offers evidence that particular fire-related behaviours should be given considerable weight in risk and dangerousness



assessment. The study is one of the few to examine the predictive ability of various variables in recidivist firesetters (Gannon, 2010).

### **2.2.3 Author's contribution**

For both of the above papers the candidate made a substantial contribution to the conception and design of the study, specifically to the literature review and hypothesis formulation, and to the analysis and interpretation of data. Both articles were drafted by the candidate who also had overall approval of the final article content in consultation with co-authors

## **2.3 Research related to staff and patient views on smoking in secure inpatient services**

Dickens, G., Stubbs, J. and Haw, C. (2004) Smoking and mental health nurses: a survey of clinical staff in a psychiatric hospital. *Journal of Psychiatric and Mental Health Nursing*, **11**, 445-451 [Paper 3]

Dickens, G., Stubbs, J., Popham, R. *et al* (2005) Smoking in a forensic psychiatric service: a survey of inpatients' views. *Journal of Psychiatric and Mental Health Nursing*, **12**, 672-678. [Paper 4]

Smoking is responsible for 30% of all UK cancer deaths, or 46,000 deaths per annum (Cancer Research UK, 2007) and smokers die 10 years earlier than non smokers (Doll *et al*, 2004). About 24% of the UK population aged over 16 years are regular smokers (National Statistics, 2006), but up to 70% of inpatients in mental health units smoke tobacco (Mind, 2008). People with mental illness are disproportionately affected by



smoking-related ill health and mortality (Lichtermann *et al*, 2001; Tsuang *et al*, 1980, 1983).

From July 2008 stringent new smoking guidelines came into effect in psychiatric care premises in England, Wales and Northern Ireland. Under the Health Act (2006), smoking was prohibited for any patient staying in a psychiatric hospital for less than six months. In forensic psychiatric settings, where two thirds of patients will stay for more than two years (Sainsbury Centre for Mental Health, 2007), patients were not outlawed from smoking and were able to continue doing so in designated outdoor areas. However, some forensic/secure hospitals and units, notably the high-secure Rampton Hospital (Cacciottolo, 2008), introduced a blanket smoking ban in both their buildings and grounds and some medium-secure units have followed suit (Shetty *et al*, 2010). Because of the security restrictions in place in secure units, for example secure perimeter boundaries, patients are effectively prohibited from smoking at all.

Interestingly, bans like this are preceded by “preparation, education, patient advocacy and access to treatment” (ibid: 287) but not by consultation, despite the current vogue for user involvement in services (Tait & Lester, 2005). Woods (2004: 609) has argued that the views of service users in forensic services are ‘relevant... however, the extent to which these can be acted upon may be limited’. This limitation appears to be based on security needs, but it has never been argued that the smoking ban in secure forensic units has any relation to security, and has largely been couched in terms of health (Cormac *et al*, 2010). Where smoking bans have been implemented in UK secure settings it appears to have been done so expressly against the wishes of patients, for example in one medium secure unit 89% of patients were smokers, and the majority objected to a ban (Royal College of Psychiatrists, 2008).



Given these subsequent moves to 'solve' the smoking problem by diktat in secure inpatient psychiatry the two studies presented here, conducted in 2003 and 2004 before there had been any realistic suggestion of a ban, may seem slightly anachronistic. The rationale behind the studies was that new information about the attitudes and beliefs of staff and patients about smoking in psychiatric services would inform the development of educational interventions and policies that, whilst aimed at ultimately reducing smoking, would do so in a context that respected individual autonomy to make poor health decisions. It should be borne in mind that when these studies were conducted it was the norm for psychiatric hospital wards to have a designated smoking area. In the context which has been outlined here, there was considerable interest in the issue of smoking in psychiatric inpatient settings, particularly in the views and attitudes of staff to patients smoking, and in the views of patients themselves.

Surveys are a useful method of collecting information, describing, comparing or explaining knowledge, attitudes and behaviour and for determining opinion (Fink, 1995). Given the dearth of knowledge at the time about the attitudes and beliefs of clinical staff, chiefly psychiatric nurses, about their own smoking behaviour, attitudes and beliefs; and those of psychiatric patients themselves, two exploratory survey studies were conducted. It was anticipated that findings from both studies would be used to aid policy development and educational interventions.

### **2.3.1 Staff views on smoking (Dickens *et al*, 2004)**

In this study (Paper 3, Dickens *et al*, 2004) a prospective, cross-sectional questionnaire survey design was utilised. Question statements were devised and piloted for the study in order to examine attitudes amongst a variety of clinical staff



groups working in a large psychiatric hospital (total clinical staff population 1,471). Question statements were generated from a review of the literature and refined through a process of consultation with a multidisciplinary reference group (the organisational Health Promotion Group). The study was anonymous, and there was no means by which non-respondents could be identified in order to improve response rate by follow-up of non-responders. Overall response rate of 50.3% was acceptable, although lower among unqualified nursing staff. Case control was applied by comparing the responses of three different professional groups: Registered Nurses, Healthcare Assistants and other professions. Further analysis of nurses who were themselves smokers and other nurses was conducted in order to ascertain the degree to which this variable operated independently of profession. It emerged that mental health nurses had significantly different - arguably more liberal - attitudes than their multidisciplinary colleagues. The new knowledge emerging from this study was that nurses, and particularly nurses who themselves were smokers, were more likely to endorse that staff should be allowed to smoke with patients, that smoking with patients is of value in the creation of therapeutic relationships and that problems with patients were more likely when they were unable to access cigarettes. Healthcare assistants had significant educational needs relative to registered nurses and other healthcare professionals. A small but significant group of healthcare assistants were likely to believe that cigarettes should be used to achieve therapeutic goals. The study does have limitations including its being limited to a single-site; however, it provided , and continues to provide, a relevant perspective and has been cited on 16 separate occasions in subsequent research studies.



### **2.3.2 Patient's views on smoking (Dickens *et al*, 2005)**

This study (paper 4, Dickens *et al*, 2005) aimed to triangulate the views of staff explored in the previous study with views of patients. Prospective cross-sectional survey design was utilised. Question statements were developed from the literature, which, in some cases, mirrored those in the survey of staff attitudes (paper 3, Dickens *et al*, 2004). On this occasion data was collected in a structured face-to-face interview format, for which there is good evidence for increased response rate (Sitzia & Wood, 1998) and it is well known that it is difficult to recruit psychiatric patients, particularly those with a diagnosis of schizophrenia, into research studies (Lester & Wilson, 1999). Results indicated a difficulty in recruiting older, male patients; a problem that has been addressed in subsequent studies by oversampling from among the male population in order to achieve representativeness (Dickens *et al*, 2010). Findings illustrated a dilemma faced by mental health nurses in that patients valued social time with nurses that involved cigarette smoking, but concurrently experienced this as a disincentive to quit smoking.

### **2.3.3 Author's contribution**

The candidate made a substantial contribution to the conception and design of the two studies described above. Specifically, this involved the design and piloting of questionnaires, the literature review and hypothesis formation. For the patient-focused study the first author acquired the data through recruitment of participants and face-to-face interviews and was responsible for the analysis and interpretation of data. The candidate drafted both articles, revised them in consultation with colleagues and had overall approval of the final article content.



## **2.4 Research related to violence and aggression**

Dickens, G., Rogers, G., Rooney, C. et al (2009) An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study. *Journal of Psychiatric and Mental Health Nursing*, **16**, 777-783. [Paper 5]

Stubbs, B. and Dickens, G. (2009) Physical assault by patients against physiotherapists working in mental health settings. *Physiotherapy*, **95**, 170-175. [Paper 6].

Violent and aggressive behaviour towards clinical staff in mental health inpatient settings remains a serious problem. The management of violent incidents is a key concern for providers of secure psychiatric services. Nurses appear to be at particular risk: a recent survey indicated that 46% of nurses employed in working age psychiatric services and 64% in older people's psychiatric services had been the victim of a physical assault at work (Healthcare Commission 2007a; 2007b). Up to one in five non-nursing staff also claim to have been assaulted (ibid), but these figures conflate data covering smaller professional groups such as physiotherapists, occupational therapists and speech and language therapists. Management of violence has been reported as one of the key role competencies of forensic psychiatric nurses (Mason, 2008). These two studies investigated two facets relating to the prevalence and the management of aggressive and violent behaviour.

### **2.4.1 Prevalence of aggression and violence against physiotherapists working in mental health settings (Stubbs & Dickens, 2009)**

This study (Paper 6, Stubbs & Dickens, 2009) attempted to define point prevalence and 12-month incidence of physical assault by patients against a small and previously



understudied group: physiotherapists who work in UK mental health settings. This group of practitioners, like mental health nurses, spend considerable amounts of contact time with patients/service users and this may involve making challenging physical demands: for example, rehabilitation programmes involving iterated exercise regimens. There is, therefore, reason to suspect that this group will experience violence/ aggression from patients at greater rates than some other health professionals in psychiatric settings. However, it is not known whether this is the case because previous studies of violence against healthcare staff tend to collapse non-medical and non-nursing clinical staff into one category, namely the 'allied health professional' (Ipsos MORI, 2010). It has previously been identified (Stubbs & Dickens 2008) that the regulatory bodies responsible for various allied health professionals have been slow to adopt training on the prevention and management of violence into pre-registration training programmes, and consequently these groups may be under-prepared relative to their nursing and medical colleagues.

The existence of a national UK special interest group for physiotherapists working in mental health settings facilitated the potential for a comprehensive survey of their experience of violence in the work setting. Survey design was chosen in order to first gauge the extent of the problem. A total of 178 questionnaires were distributed to members of the special interest group and 116 (65%) were returned. Over half (51%) of respondents had been assaulted by a patient in their career a quarter (24%) within the past 12 months. This result suggests that violence against physiotherapists who work in mental health is higher than previous estimates for allied health professionals as a group, and is more closely akin to the experience of psychiatric nurses (Winstanley & Whittington, 2004). Concrete recommendations for education and practice were made including the need for more training on violence prevention and



management in preregistration education. The main strengths of the study were its reasonably high response rate, and focus on a specialist group of practitioners with consequent high relevance to this groups practice. Limitations included the retrospective nature of the study, which may result in selective recall, and lack of wider applicability across healthcare professionals.

#### **2.4.2 Breakaway techniques (Dickens *et al*, 2009)**

One of the key policy responses to the problem of violence in psychiatric settings has been the wide roll out of 'breakaway training'. The National Institute for Mental Health in England (NIMHE, 2005) have recommended that staff who are exposed to violence and aggression should be trained in physical intervention skills, including 'breakaway' techniques. These techniques are defined by the National Institute for Clinical Excellence (NICE) (2005) as "a set of physical skills to help separate or breakaway from an aggressor in a safe manner... [and] do not involve the use of restraint". The Nursing and Midwifery Council (2001) have also recommended that staff, including non-clinical employees, be trained in the use of de-escalation techniques and breakaway skills which aim to equip practitioners with skills to remove themselves from situations involving violence including holding, strangling, grabs and hair pulls. Training in these skills is usually mandatory for mental health staff, but there is very little standardisation of training, and even less evidence that training actually achieves its objective of helping people to escape. In one study (Rogers *et al*, 2006), 40% of nursing staff in a UK medium-secure unit were unable to successfully break away from a simulated assault scenario. In a separate study, Rogers *et al* (2007) demonstrated that breakaway training is characterised by demonstration and practice of multiple, complicated techniques for roughly 14 minutes each. The



authors argued that it was unrealistic that physical skills could be learned in such a short period of time. Previous studies of breakaway techniques have relied on retrospective, self-report data (Wright *et al*, 2005) or data from prospective studies where breakaway techniques were rarely implemented (Southcott & Howard, 2007).

This study (Paper 5, Dickens *et al*, 2009) utilised a prospective observational audit design with predetermined standards against which to measure whether – in simulated scenarios – staff trained in breakaway techniques at routine annual refresher sessions were able to recall and implement those same techniques. The study largely replicated that of Rogers *et al* (2006) who explicitly called for replication studies in other settings in their report. Collaboration with the charity-wide Prevention and Management of Aggression and Violence (PMAV) of conflict management advisors was essential. This team are trained in teaching breakaway techniques and were thus responsible for the delivery of the study in terms of data collection.

The study team made some additions to extend the scope and transferability of the work of Rogers *et al* through the inclusion of non-nursing staff and non-clinical staff who also are trained in breakaway techniques. Participants ( $N=147$ ) were drawn from a pool of staff working in a variety of specialist care pathways at St Andrew's Healthcare, Northampton including low and medium secure forensic wards, adolescent, older adult and brain injury care settings. Arguably this makes the study more widely applicable than to the medium-secure only setting of Rogers *et al*'s (2006) study which recruited 47 participants drawn from nursing staff only. A different set of breakaway techniques to that reported by Rogers and colleagues was tested. Importantly, this study added an extra measure in order to investigate not only whether the correct taught technique was used, but also whether escape was effected



*in any event*. Whilst ethical implications meant that the study lacked some ecological validity, i.e., it was not possible to assault participants with real vigour and intent, measures were taken to maximise study rigour. Dual raters were used to test inter-rater reliability and randomisation was utilised to assign participants to the various study conditions, that is to say the different breakaway ‘hold’ tested. Extension of previous work in this area made findings more generalisable to the mental health workforce. Results suggested that routine training is not effectively translated into skills acquisition and retention because only 14.3% of participants fully employed the correct technique to effect an escape. However, 79.6% of participants were able to effect escape but did not fully employ the taught technique to do so. This result is a departure from Rogers *et al*’s (2006) study, and uncovers a hitherto hidden grey area that requires further examination.

Two questions in particular are raised by the findings of this study. First, to what extent can the relatively poor performance here be attributed to shorter periods of time spent in, or the different content of, breakaway refresher training? This question provides testable propositions that are the subject of an ongoing research project in which the author is a collaborator. Second, to what extent would people be successful in escaping from these scenarios *in any event* if they had received no training? Might their natural reaction not be sufficient to assist them in escaping, and indeed might not a very complex training regime actually interfere with these natural instincts? This study therefore supports developments in thinking around breakaway training that stress the importance of the primal reflex in the human response to threat, and building training around these reflexes (Mott *et al*, 2009). Breakaway training at St Andrew’s has, as a result, now concentrates on a reduced number of techniques that



build on natural responses, and it is an aim to re-audit the training in order to evaluate its effectiveness.

### **2.4.3 Author's Contribution**

The candidate made a substantial contribution to the conception and design of the studies described in 2.4.1 and 2.4.2. This included, for 2.4.2, consultation with expert colleagues to develop a suitable audit tool, and design of the study methodology. For the study of physiotherapists (2.4.1) it involved design of the data collection tool based on literature review and supervision of its pilot phase. The candidate was largely responsible for the overall design and recruitment strategy. Analysis and interpretation of data for both studies was conducted by this author, who drafted the breakaway paper and co-drafted the physiotherapy paper.

## **2.5 Research related to medication administration**

Haw, C., Stubbs, J. and Dickens, G. (2007) An observational study of medication administration errors in old-age psychiatric inpatients. *International Journal for Quality in Health Care*, **19**, 210-216. [Paper 7]

Dickens, G., Stubbs, J. and Haw, C. (2008) Delegation of medication administration: an exploratory study. *Nursing Standard*, **22**(22), 35-40. [Paper 8]

The safe and effective administration of medicines, and associated activities including the monitoring of side-effects, is a key part of the psychiatric nursing role, particularly in inpatient environments. It is one of the few activities to lie solely in the nursing domain as no other profession administers medication in the inpatient environment,



although it of course interfaces with medical professional roles. Whilst considerable attention has been paid to medication administration and errors in general medicine (Bates *et al*, 1995; Phillips *et al*, 2001; Tissot *et al*, 2003) very little research has been conducted in inpatient mental health settings (Maidment *et al*, 2006).

Prior to 2007, only nine studies specifically related to medication administration had been conducted in psychiatric or learning disability settings. Most of these studies focused on the nature and frequency of medication errors in psychiatry as identified by incident report or chart review, including previous works by the same research team (Haw, Stubbs & Dickens, 2005; Dickens *et al*, 2006). However, these methodologies are limited: incident reporting grossly underestimates error frequency (Flynn *et al*, 2002) chiefly because it is contingent upon errors being detected and/or reported if they are detected. Additionally, error reporting may be mediated by local culture, for example nurses' perceptions of the likelihood of disciplinary action arising from reporting an error. Chart review can detect many errors and can provide useful data relatively quickly. However, most errors detected by this method are actually clerical in nature. For example, the nurse has administered the drug correctly but has failed to sign the medicine chart to this effect. Additionally, information from chart review is generally thin on contextual detail (Dickens, 2007). Observational studies of medication administration of nurses working in psychiatric or learning disability settings have been small-scale and small in number. Thurtle (2000) studied medication administration in learning disability group homes but made only 16 observations. Branford *et al* (1997) observed medication administration in day centres for people with learning disabilities but made only a brief description of nursing practice. Haglund *et al* (2004) observed medication administration on two Swedish short-stay acute psychiatric wards and gave a very brief description of nursing



practice. Interviews with nurses and patients in this study suggested that time spent undertaking medication administration represents for nurses an opportunity to develop interpersonal contact with patients. The authors concluded that nurses should be given guidelines about how to perform routines connected with medication administration. A systematic review of medication errors in older people with mental health problems (Maidment et al., 2008) included only four studies that examined administration errors, only one of which (Haw, Stubbs & Dickens, 2007) used “the gold standard method for detecting this kind of error”. The study quality of the study by Haw, Stubbs & Dickens, 2007 was rated as high by Maidment *et al* (2008).

#### **2.5.1 Medication administration errors (Haw, Stubbs & Dickens, 2007)**

Building on previous work describing routinely reported errors in psychiatric care (Haw *et al*, 2005) and chart review of recording of medication errors (Dickens *et al*, 2006) it was recognised that observation was likely to detect far more errors than other methods including chart review or routine error reporting (Flynn *et al*, 2003). An observational study was therefore conducted in order to investigate medication administration errors in a psychiatric setting. The study was a prospective, observational study of medication administration on two wards for older adults with mental disorder, one a locked ward for those with ‘challenging behaviour’ and one for frailer adults providing nursing home type care. In many ways the study design resembled an audit where current practice was measured against an explicit standard that no errors would occur. The wards were selected for observation because the nature of the patient group suggested that medicines administration would be a complex, lengthy process and therefore a rich data source. Nine Registered Nurses who consented to participate were observed during 36 routine medication



administration rounds. Equal numbers of the four daily medication rounds (0800, 1200, 1800 and 2200 hours) on each ward were observed. In total, the administration of 1,313 doses of medication, 100 omissions in error and 10 omissions for valid clinical reasons, a total of 1,423 prescribed doses of medication, was observed.

Observational data was cross-referenced with medication charts after each medication round in order to identify any discrepancies between our observation and nurse's own recordings. The acceptability of the observational study technique to psychiatric nurses was also investigated by an anonymous questionnaire administered at the end of the study which presented the first published data from prospectively gathered data for incidence of administration errors in a psychiatric setting. We detected 369 errors, i.e., there was an error in 25.9% of all doses which sits at the high end of error rates of 3.5% to 27% reported in the literature from general medical settings (Ridge *et al*, 1995; Ho *et al*, 1997; Barker & McConnell, 1962; Tissot *et al*, 2003; Barker *et al*, 2002; Prot *et al*, 2005). No errors were reported during the study period using the standard hospital medication error reporting system, suggesting that almost all errors in this setting went undetected. The commonest errors were changing dosage form by for example crushing tablets without the authorisation of the prescriber (28.7%), dose omission without valid reason (27.1%) and failure to sign for administered medication (23.6%). One (0.3%) error was judged to be likely to lead to serious effects as it resulted in the omission of administration of insulin. Most errors were judged to be of negligible (69.1%) or minor (7.3%) importance whilst a further 23.3% were judged to be of unrateable severity because the nature of the error was clerical in the form of unsigned for doses. Despite the low severity of detected errors it is likely that errors lead to sub-optimal therapeutic effects, and compromised patient care.



This study provided important new knowledge about the incidence of medication errors in a psychiatric inpatient service for older adults many of whom display challenging behaviours. The nature of one of the error categories (dose form modification) was probably specific to the patient group because 41% of patients to whom we observed medicines being administered had dysphagia. This limits the generalisability of the study results to secure or general inpatient psychiatry. Additionally, many patients were prescribed very complex medication regimes which may have increased the capacity for error. However, other common error types including dose omission and clerical errors are likely to occur in other psychiatric settings. The study has clinical and training implications for those working with similar patient groups. Clearer guidance is required about dose form alteration and dose omission. The finding that there were proportionally fewer errors at the night time medication round suggested that environmental differences played a significant part in error causation in this setting; these medication rounds were characterised by quiet and a sense of unhurriedness that was not the case in the daytime. Nurses in these settings need to be supported to provide a calm environment and to set aside dedicated time for medication administration.

Limitations of this study are the potential observer effect. Arguably, this could act to increase administration accuracy (via a Hawthorne effect) or decrease accuracy by making the administering nurse feel anxious. Conversely, the observational techniques allows for analysis of direct care giving in a real-life situation thus increasing the ecological validity of the findings (Robson, 1993; Hammersley & Atkinson, 1983). Nurses were asked how the process of observation had felt for them. None rated the experience as unpleasant and all those who responded said they would be willing to be observed in the future. Whilst this does not negate any potential



observer effect it does suggest that the technique is acceptable. It was also demonstrated that observation is feasible in this environment and that it detects far more errors than alternative methods.

### **2.5.2 Delegation of medicines administration (Dickens *et al*, 2007)**

Delegation of medicines administration occurs when a Registered Nurse (RN) prepares one or more prescribed medicines for administration and requests another Registered Nurse or a non-registered Healthcare Assistant (HCA) to deliver that medicine to the patient and to report back on the outcome. This outcome may be that the patient takes the medication as requested, that the patient refuses to take the medicine or some other incident occurs. An RN can delegate medicines administration to an HCA in circumstances where delegation best serves meeting the needs of individual clients or patients (Nursing & Midwifery Council, 2004). However, the Commission for Social Care Inspection (CSCI, 2006) disagree; their position is that *“some care homes permit a care worker to take medicines to residents when the nurse has prepared them. This is not best practice . . . the person who prepares should also administer medicines and sign the record”* (CSCI, 2006).

The second piece of work in this strand related to research into medicines administration reports on a study conducted concurrently with the work on medication errors described above. A literature review demonstrated that little empirical work had been undertaken around the phenomenon of delegation of medicines administration; the existing work was reliant largely on nurse self-report questionnaire survey methodology (Kapborg & Svensson, 1999; Reinhard *et al*, 2006; Glazer, 2002; Spellbring & Ryan, 2003) or chart review (Dickens *et al*, 2006). The study (Dickens



*et al*, 2008), conducted concurrently with Haw, Stubbs and Dickens (2007) and sharing the same data set, appears to be the first to present empirical data from naturalistic observation. In brief, it was found that delegation of medicines administration in a psychiatric care setting for older adults was common (78% of all doses) and that one in five of delegated doses was administered by a non-registered HCA. Doses of medicine delegated to HCAs to administer involved some of the most complex patients including confused and aggressive individuals. The vast majority of errors occurred during the preparation of medicines, for example wrong dose, and not in final administration. The study setting was a long term care ward where HCAs would be expected to know patients very well, thus minimizing the opportunity for errors of mistaken identity. Delegated nurses and HCAs were not followed into private areas to observe medication administration so it is possible that some errors were not detected.

This result suggests that it may not be inherently dangerous to delegate the administration of medicines to another nurse or HCA, and indeed in a very busy ward it may facilitate the timely administration of medicines. However, those who are involved should receive training and preparation for the role. As with the study on errors, similar research needs to be undertaken in more settings in order to increase the generalisability of the work.

### **2.5.3 Author's contribution**

This author made a substantial contribution to the conception and design of the studies described in 2.5.1 and 2.5.2 above; to the acquisition of data and to the analysis and interpretation of data. This author drafted the article on delegation (2.5.2)



and made revisions to the observation paper, in particular being responsible for the feasibility and acceptability portion of the study. A body of related work is detailed in Appendix II.

## **2.6 Research related to risk and recovery outcomes in secure and forensic mental health services**

Dickens, G. Sugarman, P., and Walker, L. (2007) HoNOS-secure: a reliable outcome measure for users of secure and forensic mental health services. *Journal of Forensic Psychiatry and Psychology*, **18**, 507-514. [Paper 9]

Dickens, G., Picchioni, M., Sugarman, P. *et al* (2010) HoNOS-secure: tracking risk and recovery for men in secure care. *British Journal of Forensic Practice*, **12**, 36-45. [Paper 10].

Over the past decade mental health care providers have become increasingly concerned about demonstrating the effectiveness of their services as delivered in real-life, as opposed to the efficacy of individual interventions as tested in artificial randomised controlled trials. Historically, the outcome measures proposed or used to measure the effectiveness of forensic mental health services have, not unreasonably, been long term outcomes such as reconviction, readmission or mortality (Davies *et al*, 2007; Sahota *et al*, 2009). However such measures do little to inform service providers or users about shorter to medium-term outcomes across a wider range of outcomes. Additionally, they are prohibitively time consuming and expensive to collect routinely, and enhanced ethical approval is required to access criminal records data.



None of the outcomes studies in the extant literature present data from routinely collected, patient-based outcome measures. In part, this lack of published outcome data reflects a collective failure within the UK to routinely measure patient care needs and outcomes in a standardised way (Salvi *et al*, 2005). The modern outcome movement, with its emphasis on research relating to effectiveness rather than efficacy, was ushered in by Ellwood's (1988) Shattuck lecture which demanded the routine collection of outcome measures by clinicians. Outcome measures are useful for healthcare providers who need to demonstrate clinical effectiveness to stakeholders, but there is also some evidence that the routine use of outcome measures may have added benefits evidenced by reduced inpatient days and service costs in adult mental health services (Slade *et al*, 2006). There is not universal agreement; Dunn (2010: 25), for instance, feels that there is no place in for routine outcome measures in "the haphazard world of routine clinical practice". One could equally argue, though, that this is unnecessarily nihilistic: if routine clinical practice is so haphazard and ultimately different from treatment delivered in research studies, then results from highly controlled research have little validity in the context of practice. Simply put, results from very tightly controlled research studies demonstrate what *can* happen in the real world, but not necessarily what *will* happen given the interplay of various extraneous variables (Gravetter & Forzano, 2009).

The Health of the Nation Outcome Scales (HoNOS) emerged in the wake of the UK Government White Paper 'Health of the Nation' (Department of Health, 1992) which identified mental illness care and treatment as a priority area. The paper contained an explicit target to improve the health and social functioning of people with mental illness, necessitating the development of tools to measure mental health outcomes. HoNOS was developed in the UK as a brief way of quantifying the health and social



functioning of people with mental illness (Wing *et al*, 1998). HoNOS, together with related variants including HoNOS LD for people with a learning disability (Roy *et al*, 2002) and HONOSCA for children and adolescents (Gowers *et al*, 1999) were developed from the early 1990's onwards as patient-based, mental health outcomes measures. A review of all HoNOS research concluded that the tool can "be regarded as appropriate for routinely monitoring outcomes" (Pirkis *et al*, 2005: 1).

The HoNOS for users of secure and forensic mental health services (HoNOS-secure; Walker & Sugarman, 2007) were developed by modification of, and addition to, the original HoNOS for working age adults (Wing *et al*, 1999) and were intended to be more reflective of the needs of users of secure services. HoNOS-secure is a team-rated tool comprising 19 items, each rated on a 5 point likert scale with each point tied to a narrative anchor. Twelve items are based on the original HoNOS scales and cover areas relating to:

1. Overactive, aggressive, disruptive or agitated behaviour
2. Non-accidental self-injury
3. Problem drinking or drug-taking
4. Cognitive problems
5. Physical illness or disability problems
6. Problems with hallucinations and delusions
7. Problems with depressed mood
8. Other mental and behavioural problems
9. Problems with relationships
10. Problems with activities of daily living
11. Problems with living conditions
12. Problems with occupations and activities

A further seven items are intended to rate outcome in terms of current need for secure care. This is intended to capture the risk-related needs of people who use secure services.



- A. Risk of harm to adults or children
- B. Risk of self-harm (deliberate or accidental)
- C. Need of building security to prevent physical escape
- D. Need for a safely staffed living environment
- E. Need for escort on leave (beyond the secure perimeter)
- F. Risk to individual from others
- G. Need for risk management procedures.

Iterated HoNOS-secure rating across the course of a user's episode of contact with a mental health service means that outcome can be tracked over time. In theory, this data can be used at individual, ward/ service or organisational level to answer the crucial question "Do mental health services increase their patient's wellbeing?" In addition, routine outcomes results can inform clinical audit activity. Analysis of routinely collected ratings allows progress to be tracked either in terms of service performance indicators (Dickens & Sugarman, 2010; Sugarman *et al*, 2009) or for clinical populations (Dickens *et al*, 2010; Long *et al*, 2010).

#### **2.6.1 Inter-rater reliability of HoNOS-secure (Dickens *et al*, 2007)**

All outcomes tools should possess strong psychometric characteristics including validity and reliability (Dunn, 2010). This study (Paper 9, Dickens *et al*, 2009) was conducted to identify whether HoNOS-secure could claim to possess interrater reliability. Bearing in mind issues about the use of outcomes instruments in routine practice (*ibid*), the aim of the current study was to ascertain whether the instrument possessed reliability in the context of routine clinical practice rather than under some more strictly defined research design. A prospective study of inter-rater agreement was devised. Rater dyads comprising two independent clinical staff were recruited. Each dyad rated a patient known to them on all 19 items. Raters were given free access to any clinical information they required in order to make a rating including clinical notes, risk assessments and so on.



The intraclass correlation coefficient (ICC) provides an assessment of interrater reliability by comparing the amount of variation between individual raters with overall variance. This is the appropriate test to use when multiple raters are involved and is a measure of reliability equivalent to weighted kappa (Fleiss & Cohen, 1973). Landis & Koch (1977) suggest that a test of the reliability of an instrument is provided by the following rubric: 0.21 – 0.40 = fair, 0.41 – 0.60 = moderate, 0.61 – 0.80 = substantial, 0.81 – 1.00 = almost perfect. Calculation of test statistics for ICC's indicated that, for all 19 items, rating was consistent between raters at levels significantly greater than chance, with ICC's mostly in the moderate and substantial range. These results suggest that inter-rater reliability is demonstrated by the HoNOS-secure. Since this study the glossary descriptors, though not the items themselves, for HoNOS-secure items have been amended in order to improve clarity.

### **2.6.2 Tracking risk and recovery in secure/ forensic mental health care (Dickens *et al*, 2010)**

Modern mental healthcare governance relies on feedback loops that convey meaningful information about service functioning to managers across a range of performance indicators (Sugarman & Watkins, 2004). In secure and forensic mental health care these indicators will include proxy measures of clinical quality, but until relatively recently such measures have tended to measure process – essentially, asking ‘are we delivering care in the ‘right’ way?’ - rather than outcome: ‘does the care we deliver work for our service users?’ Routine use of outcomes measures also facilitates the testing of hypotheses about broadly defined groups within the secure and forensic service population, for example those with a primary diagnosis of mental disorder and those with learning disability.



This study aimed to determine whether short to medium term outcomes as captured by HoNOS-secure for a male cohort ( $N=180$ ) during a period of inpatient stay could be demonstrated, thus indicating responsiveness to change of the tool. An additional aim related to a review of the literature on longer term outcomes for users of mental health and learning disability pathways within secure services which indicated no significant difference between the two groups in terms of recidivism or re-hospitalisation; thus the second objective was to examine whether this was mirrored in the symptomatological, functional and risk outcomes captured by HoNOS-secure. HoNOS-secure ratings were routinely captured by clinical teams over a 2-year period as a matter of organisational policy largely to drive a key performance metric based on average quarterly change for cohorts (see for example, Dickens & Sugarman, 2010; Sugarman, Walker & Dickens, 2009). However, the raw data was utilised in this study in order to track individual change. Results confirmed that it is challenging to demonstrate change for this cohort, although this appears to be especially the case among men in the mental health pathway whereas statistically significant change on HoNOS-secure, reflecting shorter admission periods was demonstrated.

There are tensions arising from the desire to use routine outcomes measures as widely as possible and the sometimes conflicting desire to use only validated tools with established psychometric properties and then only in populations with whom they have been validated (Burns, 2008). However, a wide variety of outcome measures have been proposed for use in secure populations (Chambers *et al*, 2009). This study demonstrated that such a measure can be successfully implemented in a secure setting; however, it also demonstrated that newer more sensitive tools may be needed to capture change especially in secure mental health pathways. Alternatively, the results demonstrate a lack of success in effectively treating this population. Results



from an equivalent study of female patients (Long, Dickens *et al*, 2010) where change is demonstrated more effectively, suggests the latter may be the case.

### **2.6.3 Author's contribution**

The current author made substantial contribution to the conception and design of both studies described above, and to the analysis and interpretation of data. For the reliability study (2.6.1) the author played a substantial role in the acquisition of data through recruitment of participants. Both articles were drafted by this author who was involved in revision based on co-author feedback. Overall approval of the final article content was the responsibility of this author for both studies.



## **Chapter 3. Synthesis and conclusions**

### **3.1 Overview**

This chapter will critically evaluate the extent to which the submitted body of work constitutes a significant body of forensic psychiatric nursing research with reference to its context(s) and will identify the implications of the work for the concept and role of the forensic psychiatric nurse.

The first argument made in support of the submitted research as a significant contribution to psychiatric practice in secure and forensic care is simply that the sum total of the work detailed in Chapter 2 meets this definition *per se* both in respect to its quantity and its demonstrable quality. The work represents a range of empirical research that is central to forensic psychiatric nursing and forensic practice and which presents many important theoretical and practical findings. In summary, the research has resulted in new or refined knowledge in relation to firesetting in the differentiation between male and female firesetters, and between more and less dangerous firesetters; attitudes to smoking among psychiatric staff and inpatients; the prevalence of violence and aggression towards physiotherapists working in mental health settings; the efficacy of methods for escaping from or avoiding assault; the causes of and contributory factors to medication errors; delegation of medicines administration; reliability of an outcomes tool for use in secure services and the utility of that measure when used in routine clinical practice in secure psychiatry. Full details for each submitted study are included in Appendix I.

The following sections examine the submitted research in the contexts in which it was conducted, demonstrates that the research contributes to a coherent area, namely



secure and forensic psychiatric care, and identifies how this unification of the body of work within its contexts can inform the ongoing debate about the role of the forensic psychiatric nurse.

### **3.2 Contributions in context: current definitions of forensic psychiatric nursing**

#### **3.2.1 Nurses who work in secure psychiatric services (*pace* Mason, 2002; Mason *et al*, 2008a, b)**

In section 1.2.2 two differing definitions of forensic psychiatric nursing, both UK derived, were explicated. Mason (2002; Mason *et al*, 2008a, b) viewed forensic psychiatric nursing as comprising a number of role tensions; empirical investigation of these tensions implied a definition of forensic psychiatric nurses as those working in low, medium and high security environments. This definition was then used to investigate the role of the forensic psychiatric nurse empirically and results indicated substantial, and apparently security level- related, differences between nurses on measures of these tensions. Therefore there was significant heterogeneity across the population defined as forensic psychiatric nurses on the role tensions measured. Mason and colleagues did not examine differences on these hypothesised role tensions between forensic nurses and general psychiatric nurses. However, it can certainly be hypothesised that nurses working in low and medium-security settings are more like general psychiatric nurses in their reports about their role than they are like nurses who practice in high security. To some extent it can thus be concluded that Mason's definition does not fully account for forensic psychiatric nursing as an area of specialist practice. Nevertheless, despite these reservations about Mason's definition of forensic psychiatric nursing, much of the body of work submitted in support of the current thesis has relevance to forensic psychiatric nurses so defined.



The majority of the work was conducted in, or with those working in, broadly defined low and medium secure environments (Papers 3, 4, 5, 7, 8, 9, and 10) and offered new insights for those working in these services.

### **3.2.2 The forensic psychiatric nurse as specialist (*pace* Kettles and Woods, 2006) and as advanced practitioner**

Kettles and Woods (2006) concept analysis offered a multi-dimensional definition of the forensic nurse role and identified that these practitioners work in different levels of security, community and prison settings, and with diverse groups including both offenders and victims. The definition was flexible and reflexive: the role of the forensic nurse amounts to what the self-defined and specialist forensic nurse does in those environments where they practice. The role was thus defined equally by experience, competencies and qualifications as it was by the location of practice, security level or specific patient group. This marks an important distinction with the definition implied by Mason (2002): for Kettles and Woods, a nurse working in a medium secure unit who has undertaken no further postgraduate study can be classified as a 'borderline' case of a forensic psychiatric nurse. By this logic secure services employ both specialist forensic nurses and others who practice their psychiatric nursing skills within a secure context and may or may not aspire to become specialist forensic practitioners. Kettles and Woods' work in this area is theoretical rather than empirical and thus it is not known whether this is in fact the case, nor what the implications of this may be. It is potentially problematic that the rich definition provided by Kettles and Woods precludes, or at least complicates, empirical research into the role in the manner of Mason's work. What would be the precise inclusion criteria in terms of qualifications and experience? How many



specialist nurse practitioners would meet these criteria? How would specialist skills in risk assessment, knowledge about legal aspects and interpersonal competencies differentiate this group from non-nursing forensic professionals? One solution to this problem is that we now shift focus from lengthy expositions of the role of the forensic psychiatric nurse and on to the effectiveness of interventions deployed by them and others in the secure and forensic arena. One way of facilitating this will be to examine forensic psychiatric nursing in relation to advanced practice nursing rather than to the specialist role addressed thus far.

An alternative method of examining the issue of forensic psychiatric nurse as specialist practitioner would be to conceptualise the scope and potential for advanced nursing practice in forensic psychiatric settings. Kettles & Woods (2006) identified that it is the level of skills and competencies of nurses which distinguish their specialism as well as the particular patient group with whom they work. The 'model' forensic nurse they describe shares many attributes with that of the advanced nurse practitioner. Advanced Practice Nursing (APN) is an umbrella term that has been used to refer to nurses in all specialties who operate at a higher level than traditional nurses (Sheer & Wong, 2008). There is, however, no universally accepted, clear definition of APN and the variations between advanced roles may reflect the clinical context in which they have developed (Elsom *et al*, 2005). The titles used to identify nurses working at such a higher level have, in the UK, included 'consultant nurse' and 'clinical nurse specialist'. The trend towards APN has been described as global (Sheer & Wong, 2008). Of importance, at least in the UK, the drive for codification of an advanced role was generated from the reduction in the working hours of junior doctors from 2003 which expanded the scope of nursing role boundaries into traditionally medical areas (Royal College of Nursing, 2010). The advanced



practitioner has been commonly described as holding a higher level of *clinical skill and expertise* relative to basic nursing competences, as implementing an *explicit evidence-based practice*; and as having an *autonomous role with expanded role boundaries* (Callaghan, 2008); Ruel & Motyka, 2009). Other reported features, though less universally so, include leadership, research activity, consultancy, collaboration (Callaghan, 2008), and specialization (Ruel & Motyka, 2009). In the UK, guidance on proper usage of the term Advanced Nurse Practitioner and on requirements for accreditation as such comprising 115 areas of competence across seven domains have been issued (Royal College of Nursing [RCN], 2010). The RCN views an undergraduate honours degree as the minimum qualification required to practice at an advanced level whereas a master's degree is a requirement in many countries (Sheer & Wong, 2008).

In mental health nursing, Jinks & Chalder (2007) conducted action research with consultant nurses to describe the dimensions of their practice, concluding that they comprised themes relating to general issues, clinical practice, leadership, research and education, thus largely reflecting the APN role dimensions described above. Allen (1998) reported a survey of members of a mental health nursing research interest group who were supportive of an advanced practice role for psychiatric nurses including some medical tasks such as formulation of psychiatric diagnoses, broader powers under mental health act legislation, and limited prescription and modification of already prescribed drugs. However, non-medical roles, including provision of talking therapies, were viewed as more central to advanced nursing practice.

Advanced practice roles in forensic psychiatric nursing have also been described to a small extent in the literature. Langton (2008) defines the key role dimensions of



forensic consultant nurses as being related to service development, workforce planning, expert practice, research and education, maintenance of a national perspective, and particular duties related to the high security hospital including conducting investigations and incident command. These themes are largely reflected in a personal account by Aiyegbusi (2002) who identifies the forensic nurse consultant role as comprising dimensions related to expert clinical practice, strategic management, teaching, research and leadership. A survey (Chalder & Nolan, 2001) of the views of a forensic mental health team about a proposed nurse consultant role indicated that a successful postholder would challenge interprofessional boundaries and raise the profile of nurses within the multidisciplinary team. It is notable that, whilst descriptions of APN in forensic psychiatry have shared the core element of *clinical skill and expertise* with the advanced practitioners described above, there has been less emphasis on *the autonomous role with expanded role boundaries* for APN in forensic psychiatric practice. It will therefore be necessary to examine the concept of autonomy in relation to APN in order to judge its relevance to forensic psychiatric nursing.

Elsom *et al* (2005) have identified two schools of thought relevant to the APN role in psychiatry: first, authors (Daly & Carnwell, 2003; Torn & McNichol, 1998) who view the degree of autonomy to make clinical decisions as being key to advanced nursing practice and, second, those who see the level of expertise held by the nurse in performing nursing tasks as most important (Manley, 1997). Elsom *et al* (2005) view the first of these conceptualisations as *expanded practice* and the second as *advanced practice* and, from this perspective, increased autonomy is not a prerequisite of advanced practice. In the UK, the RCN (2010) have attempted to square the circle by claiming that autonomy is central to advanced practice but that the definition



employed is crucial: Jones' (1996) definition of autonomy as freedom to exercise judgement, and to subsequently accept responsibility for decisions made, is supported over a definition emphasising the ability to make independent decisions. The extent to which expanded practice is possible within traditional forensic psychiatric nursing settings – i.e., secure units – is currently unclear. Whilst recent changes to mental health legislation in England & Wales allowing nurses to take charge of a patient's treatment, including decisions about discharge, were broadly welcomed (Merchant, 2007), it is not known whether forensic psychiatric nurses have taken up the role. Similarly, there is a lack of information about how many of the 400 qualified mental health nurses prescribers in the UK are forensic psychiatric nurses, particularly those working in secure units (Patel *et al*, 2009). The concept of APN has been supported with reference to methodologically strong Randomised Controlled Trials and systematic reviews that have identified increased patient satisfaction in patients treated by advanced practice nurses relative to doctors (Shum *et al*, 2000; Horrocks *et al*, 2002). However, these types of studies have invariably been conducted in primary care settings for people suffering minor ailments. Advanced practice cannot comprise a set of homogeneous skills across contexts but is essentially context-bound. It is not an established fact that an advanced practice nursing role in mental health, and specifically in forensic psychiatric settings, would have similar benefits.

The relationship of the research submitted in support of this thesis to the concepts of forensic psychiatric nursing as a specialist role, and to concepts of advanced nursing practice in forensic psychiatric settings is now summarised. Kettles and Woods (2006) definition viewed forensic psychiatric nursing as a fusion of general nursing and mental health knowledge with specific forensic knowledge and applied theory in multidisciplinary, secure and community contexts. Publications in this document



about medication administration and smoking focused very much on generating new knowledge based on general psychiatric nursing skills and practice, albeit delivered in the context of secure care and multidisciplinary practice. Work that was conducted later develops specific forensic themes with real world applicability in relation to understanding and managing aggression and violence, generating knowledge to inform risk assessment for firesetting and developing tools to measure outcome in secure and forensic services. In many respects, therefore, the body of work presented here fuses general psychiatric nursing, mental health and forensic knowledge, is related to multidisciplinary practice in secure and other forensic contexts. In relation to a APN role in forensic psychiatric settings the published work in this thesis speaks largely to notions of advanced practice in terms of increased *clinical skill and expertise* rather than to that of the expanded *autonomous role with expanded role boundaries*. Essentially, the research presented here provides informative new knowledge to enhance clinical decision making in areas of risk assessment, user views and autonomy, medication management, management of aggression and violence and outcomes measurement. There is currently some uncertainty about how APN which challenges traditional boundaries of autonomy in forensic psychiatric settings manifests itself and this will be a theme for future research recommendations.

### **3.3 Contributions in context: definitions of psychiatric nursing research**

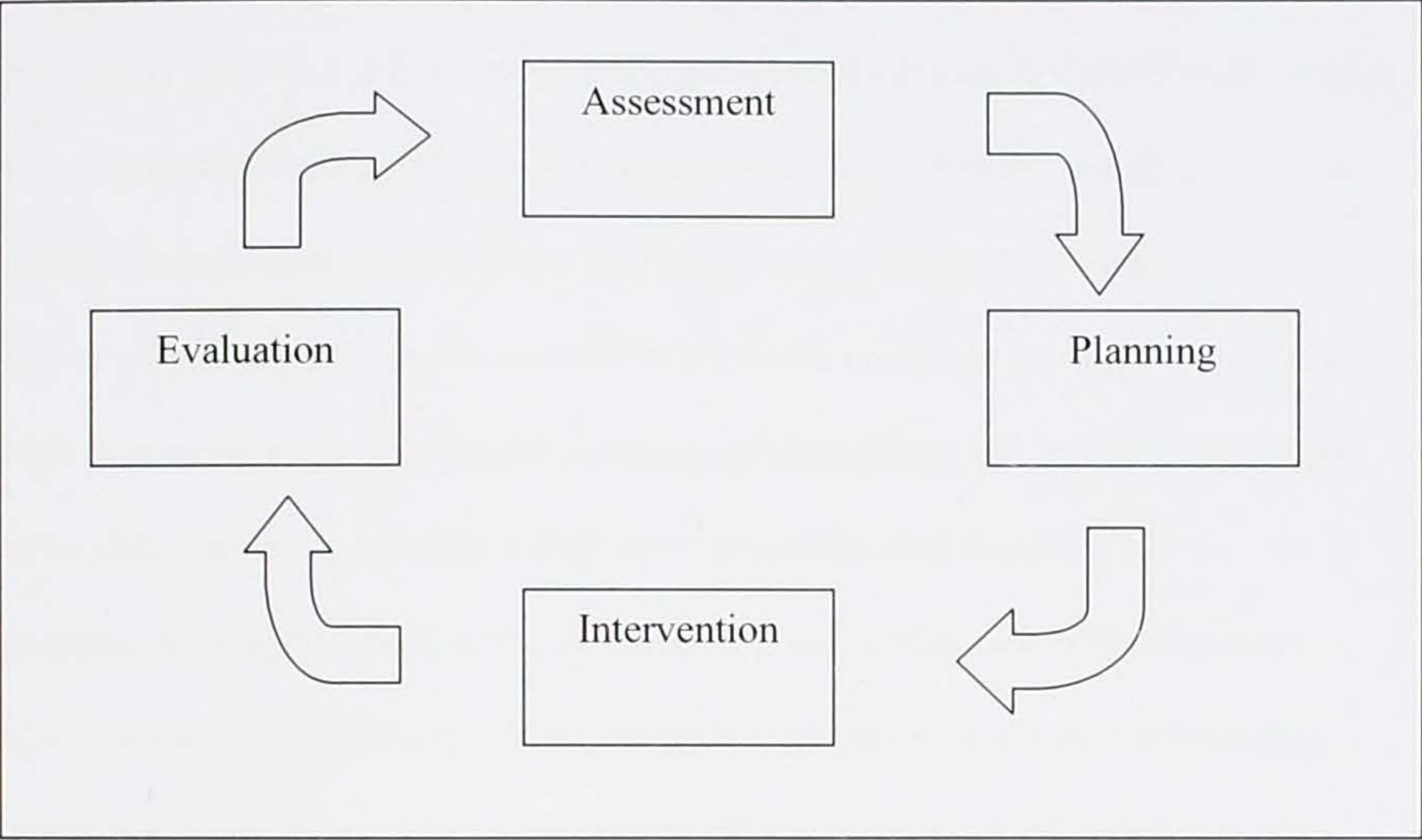
#### **3.3.1 Research as applicability to the nursing process**

The nursing process is: “An organised, systematic and deliberate approach to nursing with the aim of improving standards in nursing care” (Rush *et al*, 1996). The theory was developed inductively in the United States in the late 1950’s by Ida Jean Orlando (Schmeiding, 1993) and proposed, simply, that there is ‘good’ and ‘bad’ nursing



practice. ‘Good’ nursing practice is characterized by a deliberative reaction by the nurse, whose goal is to help the patient, and is based on their presenting behaviour or symptomatology. ‘Bad’ nursing decisions are based on automatic responses whose aim lies elsewhere. From these observations, Orlando proposed a cyclical model to aid nursing practice (see *Figure 1*):

*Figure 1 The nursing process (after Schmeiding, 1993)*



Simply described, a holistic assessment of individual patient needs should inform a ‘diagnosis’ of the problem and a plan of action to help relieve it. The intervention phase involves the implementation of the plan and is succeeded by evaluation of the success or otherwise of the planned intervention in alleviating the presenting problem. This information informs further assessment and thus the process can be termed dynamic. In order that deliberative reaction occurs then evidence is required to inform that deliberation at each stage of the process. In section 1.2.3 the implications of using the adherence to an aspect of the nursing process (Yonge *et al*, 1997) as an indicator of whether empirical research could be deemed to be nursing research were identified.



In effect, when operationalised in this way, psychiatric nursing research is itself defined by its relevance to aspects of the nursing process, and studies of nurses themselves fall outside of this scope. Using this definition, a majority of the studies presented in this thesis, and at least one in each of the five topic strands, address an aspect of the nursing process. Research on firesetting (see 2.1) gathered data on firesetters in order to answer questions about differentiation on gender and dangerousness and thus aid *assessment*. Research on patients' views of smoking in psychiatry (section 2.2.2) gathered information about beliefs and preference in order to inform intervention *planning*. Empirical work on breakaways (section 2.3.1) and medication administration (section 2.4) provided new information for specific *interventions*: in particular, successful breakaways are likely to reduce risk of injury both to patients and to staff and thus reduce potential negative legal consequences; reduction of medication administration errors should lead to enhanced pharmacological benefit. Finally, development and routine use of appropriate outcomes measures (section 2.5) will support appropriate *evaluation* of care and treatment. Some items of the submitted work (e.g., studies of *nurse's* views on smoking, section 2.2.1) may not meet this definition of psychiatric nursing research, but this is hardly surprising in a field dominated by such studies. Furthermore, it is demonstrated below that these do meet other definitions of nursing research. In short, the body of work submitted for this thesis constitutes in this context a unique contribution that is relevant to nursing practice in secure and forensic contexts.

### **3.3.2 Other definitions of psychiatric nursing research**

In section 1.2.3 it was identified that reviews of psychiatric nursing research have used inclusion criteria including publication in nursing journals (Jones & Jones,



1987a; Zauszniewski & Suresky, 2004) and authorship by a nurse (McCarthy *et al*, 2006). Clearly all the empirical research submitted in support of the current thesis meets the latter definition. Four of the ten papers submitted were published in what are immediately identifiable as nursing journals (Papers 3, 4, 5, 8). However, there are a number of considerations to make when selecting a journal for submission, not least whether the content may be of equal relevance for non-nursing forensic practitioners, hence an equal number of papers were published in multidisciplinary forensic journals (Papers 1, 2, 9, 10). The remaining two papers comprise a study of medication administration errors in a specialist secure older people's service published in a healthcare quality journal (Paper 7) and a prevalence study of violence against physiotherapists working in mental health settings published in a specialist physiotherapy journal (Paper 6). The former paper clearly comprises a study of nursing practice in a secure environment; the second provides new information to inform the prevention and management of aggression which has been identified as one of the key forensic psychiatric nursing roles (e.g., Mason *et al*, 2008a). By these criteria the submitted body of work constitutes a contribution to nursing and related clinical practice in secure and forensic contexts.

### **3.4 Contributions in context: psychiatric nursing interfaces with other professional disciplines**

The scope of other professionals including psychiatrists, psychologists, social workers, and occupational therapists who work in the secure and forensic care arena is beyond the scope of this thesis. However, it is an assumption of the thesis that other practitioners operate in this arena and in all of the areas operated in by psychiatric nurses. It is a second assumption that a portion of this practice overlaps with that of psychiatric nurses, specifically in those areas identified above as key to the role of the



forensic psychiatric nurse. Much of the research submitted in support of this thesis has relevance to either a specific professional group, for example to physiotherapists (Paper 6) or to a range of groups for example the results from firesetting research are highly relevant to the practice of psychology and psychiatry professionals.

### **3.5 Contributions in context: secure vs. forensic care**

Whilst there is considerable overlap, secure care and forensic care are not interchangeable concepts (see 1.2.1). The body of work submitted for this thesis was conducted across both secure and forensic settings and is thus widely applicable. Most (Papers 3 to 5, 7 to 10) was conducted across a range of specialist secure services, and much of it has relevance to these environments. Additionally, research on firesetting has applicability to those practicing in the community who may be required to assess arsonists for the courts. Within secure services theoretical domains of security reflect real differences in physical, procedural and relational security needs (Collins & Davies, 2005). The submitted work was conducted across a range of low and medium secure provision and thus also has wide applicability.

### **3.6 Contributions in context: the evidence base for forensic psychiatric nursing**

The putative role of the forensic psychiatric nurse is a new one, and most research thus far has concentrated on the role rather than on its effectiveness. However, there is no extant review of forensic psychiatric nursing research literature as opposed to reviews of the role of the forensic psychiatric nurse, and the concept of *forensic psychiatric nursing research* has therefore not been fully explored. Examination of reviews of general psychiatric nursing research suggest different definitions of the concept with some including research on the basis of its publication in nursing



journals or authorship by a nurse. The research submitted in this thesis has eschewed focus on the forensic role and has instead aimed to provide practical information and knowledge about specific topic areas.

### **3.7 Contributions in context: the UK independent sector mental health market**

Much of the submitted research was conducted in a UK independent mental health care setting which, uniquely, can be viewed as a microcosm of the UK secure care sector. This lends the work a broad view informed by perspectives from mental health, learning disability, and acquired brain injury, male and females, adults, adolescents and older adults. Whilst this may be viewed as atypical of secure care it should be stressed that all patients in studies undertaken in these settings were NHS funded patients and most had previously received care in NHS services. The independent sector provides over a third of the medium and low- secure bed capacity in the UK (Sainsbury Centre for Mental Health, 2007) and thus the work has wide applicability. However, as demonstrated in section 1.2.4, the independent sector is not simply a direct mirror of NHS secure provision. The independent sector provides care for many of the most challenging patients, and in many emerging specialist areas. The body of research presented here therefore, by virtue of its situation within the context of the independent sector, potentially adds considerable richness to the evidence base for forensic psychiatric nursing because of the diversity and hence uniqueness of the patient group. It highlights the need for nursing research in inpatient settings to adequately and accurately describe their sample populations in order to allow research consumers to gauge generalisability, and it acts as a reminder that researchers should embrace independent sector providers when planning and designing studies.

Furthermore, the diversity of services provided by the independent sector where NHS



provision is virtually nil (e.g., secure neurobehavioural rehabilitation for people with extreme challenging behaviour) potentially adds richness to, and even challenges, the definition of what it means to be a forensic psychiatric nurse such that future conceptualisations will need to consider the independent sector context.

### **3.8 Contributions in context: the wider political context**

This thesis has presented five explicit research areas in terms of topical theme. The political context of era during which the work was conducted has been outlined in chapter 1 (see 1.2.5). where it has been demonstrated that the work submitted was largely in keeping with the wider political context of the period of research including a focus on identified priorities. This demonstrates the relevance of the published research for clinical practice and public policy makers. In the case of two published papers results were used to inform an influential report (Jochelson & Majrowski, 2006) which provided encouragement to policy makers to extend smoking bans in psychiatric services on the basis that patients could still smoke outdoors; however, this underestimated the zeal of managers in secure services – as opposed to elected politicians - who have not shied away from more comprehensive prohibitions on smoking, effectively banning patients from smoking anywhere (Dickens, 2008). In other areas research conducted as part of the thesis has paved the way for the candidate to become involved in larger, funded projects, for example as lead local investigator for an Economic and Social Research Council study aimed at developing an evidence based intervention for deliberate firesetters.



### **3.9 Developing the concept of the forensic psychiatric nursing role: a zonal model of advanced nursing practice in secure and forensic environments**

Thus far, the thesis has demonstrated that the diverse set of contributions contained within represent a significant and coherent contribution to the body of knowledge from which forensic psychiatric nurses might draw upon to assist them with their practice. The contributions of the individual papers to their respective fields have been identified. En route, the thesis has examined the contexts in which the research was devised and conducted and in which it was disseminated. Current conceptualizations of forensic psychiatric nursing have been questioned, in part because the submitted research, whilst demonstrably related to forensic psychiatric nursing, does not fit simply with existing actual or implied definitions. It is therefore proposed that current conceptualizations are insufficiently adequate to describe and explain forensic psychiatric nursing as an area of specialist practice and therefore to guide the future development of the profession. Specifically, it is insufficient to define the concept purely as a function of the type of ward or unit in which registered psychiatric nurses happen to work; nor is it acceptable to define an advanced role so heavily reliant on experience and knowledge related to high secure care. What is required is a richer understanding of the forensic and secure psychiatric care arena. It is proposed that this thesis, through its examination of the relevant literature and the contextual development of a body of forensic psychiatric knowledge, offers an opportunity for the basis of such an understanding. In order to facilitate such an understanding then a model is required as an abstract method of describing the complex real-world state of affairs (Box & Draper, 1987). In the current case then the real-world state of affairs to be modelled is the arena of psychiatric care, most



specifically nursing care, in forensic and secure contexts. The following two assumptions underlie the model:

Assumption 1:

Psychiatric nursing in the arena of forensic and secure care is an advanced practice role.

Assumption 2:

As noted in 1.1 and 1.2.2, context is crucial to conceptualization (Duncan *et al*, 2007) and therefore the precise nature of the advanced practice role will be informed by the contexts of practice.

The corollary of these two assumptions is that the precise nature of the advanced practice nursing role will vary according to the interplay of the contexts, or dimensions of practice, in which the role is seated. From the explication of contexts related to research submitted for this thesis, it is therefore proposed that forensic psychiatric nursing is an advanced practice role whose dimensions include:

- i) *Security*: Expert knowledge of, and practice within the context of, the level(s) of security in which the practitioner operates including high, medium, low, locked and open wards, and no security including in the community.
- ii) *Forensicity*: Expert knowledge of the offending or challenging behaviour related risks and needs of the population with whom practice is conducted.
- iii) *Evidence based practice*: The extent to which practice is built upon an explicit evidence base relevant to the setting and patients or clients, and the extent to which that evidence differs from general psychiatric nursing evidence.



- iv) *Political knowledge*: Knowledge of the extent to which special features of service provision impact on service organisation and delivery including state versus independent sector provision and wider political impact of economics and socio-cultural issues
- v) *Expanded practice*: The extent to which practice is expanded into other professional, but traditionally non-nursing, roles within the practice arena.
- vi) *Clinical expertise*: The extent to which clinical practice can be considered to require advanced nursing skills defined here as a level of expertise and knowledge of a different order to the non-specialist.

The precise nature of the advanced practice nursing will, of course, differ in relation to the precise contextual position of the practitioner. To assist with understanding this proposed role these dimensions can be mapped in order to model the potential variety of roles. Figure 2 (see p. 85) therefore comprises a matrix of contexts or dimensions which reflects that dimensions of *security* and *forensicity* are inter-related and overlapping but not identical. Different levels of security are implied through shading, darker shading representing higher security with this being present in forensic environments and lighter shading lower security and open settings which may occur across forensic, borderline and non-forensic settings. *Evidence based practice* and *expanded practice* are represented by zones referring to psychiatric nursing and its evidence base and other mental health related professionals and their own evidence base. These zones sit within an overarching political and sociocultural context (*Political knowledge*). *Clinical expertise* occurs across and within overlapping zones and will vary according to the contexts supplied by those zones.



The zonal model of psychiatric nursing in forensic and secure care is therefore proposed as a means of understanding the real world complexity of nursing care in the secure and forensic mental health arena. Zones A to E reflect unique combinations of dimensions that may require specific advanced practice elements. Zone F represents a zone of expanded practice, possibly common to all roles, but varying in its precise form. Such expanded practice will include activity not traditionally within the sphere of responsibility of the nurse and may include overall clinical responsibility for patients, mental health nurse prescribing status, advanced risk assessment responsibilities, delivery of accredited psychological therapies and so on.

### **3.10 The submitted research as a coherent contribution to forensic psychiatric nursing: explained by the zonal model**

Explication of both the research submitted in support of the current thesis and its contexts suggests a zonal map of the forensic and psychiatric care arena that both situates the body of work as a coherent whole across a number of linked zones of practice, and acts as a model of the area that may help others to clarify where their own practice is situated. Mapping the body of work submitted in this thesis onto these contexts suggests there is very little that is exclusively nursing focused, and that practice in this arena is essentially and inevitably multidisciplinary in nature.

- Medication administration and medication errors in secure elderly psychiatric care: related to psychiatric nursing practice in a secure environment (Zone A). Interfaces with other mental health professionals, notably psychiatrists (Zone C).



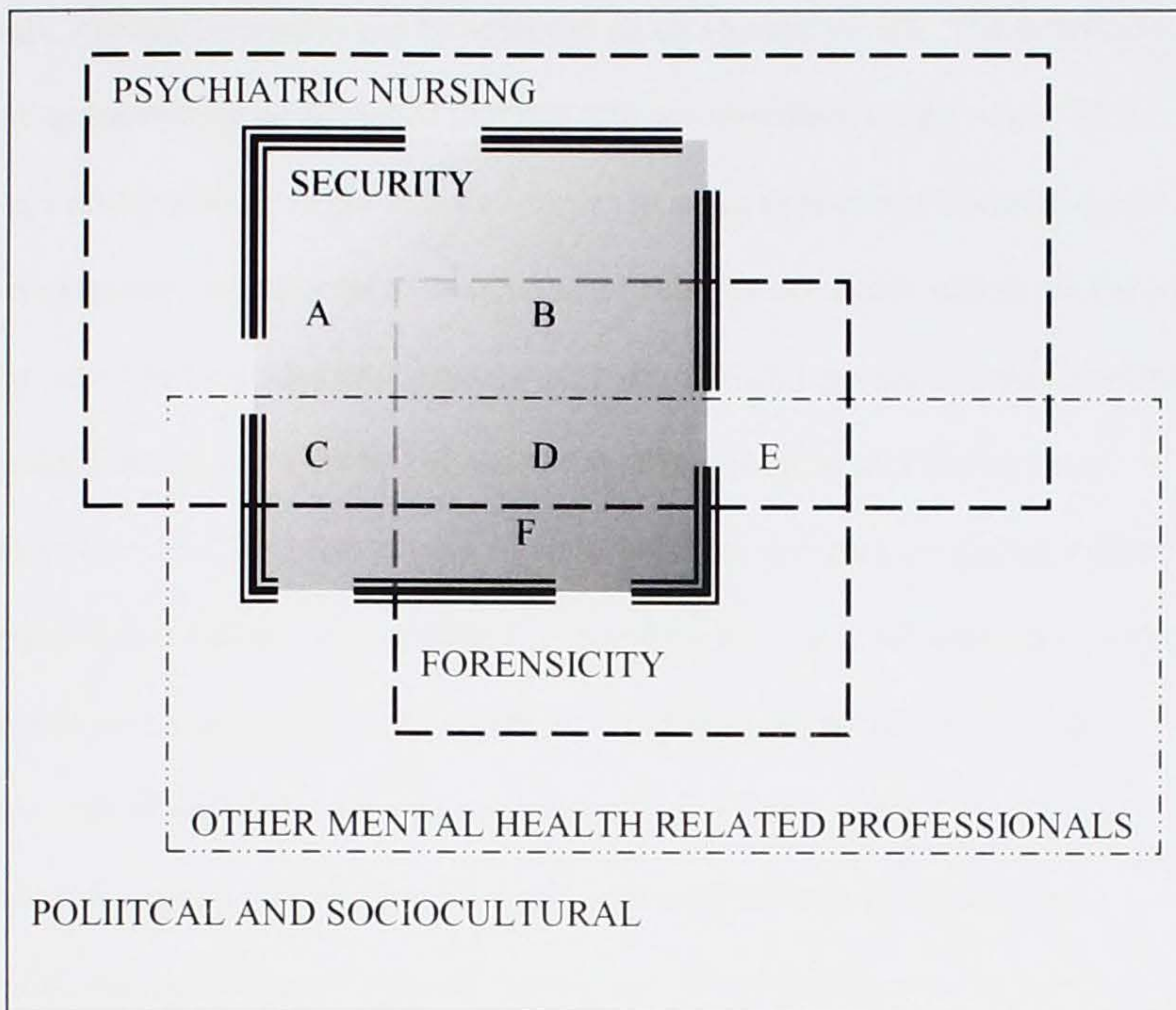
- Firesetting among people referred for forensic psychiatric examination: related to forensic practice for psychiatric nurses and other mental health disciplines in non-secure (Zone E) and secure forensic environments (Zone D).
- Aggression and violence prevalence and staff skills: related to psychiatric nursing and other mental health disciplines in secure and secure forensic environments (Zones A, B, C and D).
- Attitudes to smoking among patients and staff: related to psychiatric nursing and other mental health disciplines in secure and secure forensic environments (Zones A, B, C and D).
- Outcomes evaluation: related to psychiatric nursing and other mental health disciplines in secure and secure forensic environments (Zones A, B, C and D).

### **3.11 Implications of the zonal model for wider practice and for the profession**

Thus far the zonal model presented has attempted solely to represent a complex arena in a simplified and abstract form. However, it is now proposed that the model could also be used to explain advanced practice in the secure and forensic psychiatric nursing care arena, could be used to structure and guide development for the psychiatric nursing profession in this arena, and could be used to generate hypotheses that would demonstrate the value added by advanced practice roles in this arena. The zonal model promotes a coherent and integrated overview of a specialist area of psychiatric nursing practice. It suggests a definition of “advanced and expanded psychiatric nursing practice within the context of security and/or forensicity, based on a developed understanding of the available evidence and a high level understanding of the wider political and sociocultural context”. The wider definition offered by the zonal model increases the applicability of the model to areas beyond those traditionally viewed as ‘forensic’ and implies that the epithet ‘forensic psychiatric



Figure 2: Zonal model of advanced practice in the secure/ forensic care arena



Zone A: Psychiatric nursing practice in secure non-forensic environments e.g., specialist older people or brain injury services, some low secure services, PICUs.

Zone B: Psychiatric nursing practice in secure forensic environments e.g., High and medium secure services, some low secure services

Zone C: Multi-disciplinary practice in secure non-forensic environments (see A)

Zone D: Multi-disciplinary practice in secure forensic environments (see B)

Zone E: Multi-disciplinary forensic practice not in secure premises (e.g., community services, victim focused forensic practice).

Zone F: Zone of *expanded practice*. Expansion of nursing role into areas of expertise traditionally dominated by other mental health professionals.



nurse' is insufficient; in fact its continued use may serve to militate against the future development of the role. However, a period of consultation will be required to ascertain whether consensus can be achieved on an alternative title. The definition of the role as essentially an advanced practice role has important implications. First, there is a responsibility on practice developers to make explicit the knowledge and competences required in order to achieve advanced practice status within the field and develop an accredited advanced practitioner role. Not all registered nurses working within the dimensions of the model can claim to be advanced practitioners and therefore should not be referred to as forensic psychiatric nurses, or any alternative soubriquet that is deemed appropriate. The zonal model proposed suggests a working hypothesis to test this: psychiatric nurses working at an advanced level within a forensic context will differ significantly on key zonal model-related measures of forensic and security knowledge and skills, expanded and advanced practice, evidential and sociocultural/ political knowledge relative to other nurses working in similar settings. To extend this, non-advanced practitioners who work in forensic contexts will not differ significantly on similar key measures from non-advanced practitioners who work in non-secure/forensic contexts (e.g., acute admissions ward). Again, this will require explicit articulation of the knowledge and competences required. Part of this explication will require identification of the relevant evidence base. It is proposed that a thorough review of the evidence base for the zones of practice identified by the model is conducted. The evidence for psychiatric nursing more generally has advanced significantly in recent years and the evidence from that, and other fields, should be evaluated in terms of its applicability across forensic and secure zones of practice. For example, to what extent is the evidence base for the identification of conflict and containment behaviours developed in recent years for



use in acute in acute adult psychiatric settings (see e.g., Bowers *et al*, 2006) applicable to secure and forensic zones? Such explication should also occur in relation to patient involvement, mental health nurse prescribing, psychological therapy and so on.

Where inapplicability is identified then research programmes should be developed to strengthen the evidence base for secure and forensic practice. Indeed, where the outcomes that are required differ then programmes of work to identify and develop tools to measure identified outcomes should be conducted. As a result of such a programme of work it is expected that the true effectiveness of the advanced practitioner role in secure and forensic zones could be demonstrated as has been the case for advanced practitioners in primary care settings.

### **3.12 Conclusion**

In conclusion, this thesis has described a body of published, empirical research conducted in the arena of secure and forensic care which has implications for practice and future knowledge needs. The opening chapter met the first objective of the thesis which was to “*elucidate the context in which the research submitted as the empirical part of this PhD was conducted*”. Chapter 2 then met the second objective which was “*to detail the research conducted and published by the current author which contributes to the forensic research literature in the following key topic areas: firesetting, aggression and violence, attitudes to smoking, safe medicines administration, and outcomes measurement in secure psychiatry*”. The final chapter has examined the relation of the research to its contexts, has explored the extent to which it can be considered a body of forensic psychiatric nursing research, and has identified the implications that this holds for current theories of forensic psychiatric nursing. Through explication of the relationship of the body of work to its contexts it



has emerged that those wishing to delineate the role of the 'forensic psychiatric nurse' have continued over the past ten years to proselytise for the role but have not fully demonstrated either its uniqueness or effectiveness. Current conceptualizations of forensic psychiatric nursing do not fully address the centrality of the patient's views and experience of care. The body of work submitted here suggests that future theories of nursing practice in these settings need to concentrate on the commonalties between nurses and other practitioners, and of the effectiveness of interventions delivered by them all as has been demonstrated for general psychiatric nurses (Curran & Brooker, 2007). Nurses working in the secure and forensic arena, whether labelled as forensic nurses or not, rarely act in isolation or deliver distinct 'forensic psychiatric nursing' interventions. It may be time to question whether such distinct 'forensic psychiatric nursing' interventions either exist or can be shown to be effective. A zonal model of psychiatric nursing in secure and forensic care has been explicated by reference to the contextual elements of nursing in this arena and the possibilities of this as both a descriptive and explanatory theory for future development has been made.



### 3.13 References

Abbot, M., Arthur, A., Walker, L. *et al* (2005) The challenge of recruiting people with schizophrenia to a health promotion trial. *British Journal of General Practice*, **55**, 634-636.

Aiyegbusi, A. (2002) News feature. *Mental Health Practice*, **5**(5), 12.

Allen, J. (1998) A survey of psychiatric nurses' opinion of advanced practice roles in psychiatric nursing. *Journal of Psychiatric and Mental Health Nursing*, **5**, 451-462.

Anwar, S., Långström, N., Grann, M. *et al* (2009) Is arson the crime most strongly associated with psychosis? A national case-control study of arson risk in schizophrenia and other psychoses. *Schizophrenia Bulletin* Advance Access published on October 22, 2009; doi:10.1093/schbul/sbp098

Arboleda-Florez, J. (2006) Forensic psychiatry: contemporary scope, challenges and controversies. *World Psychiatry*, **5**, 87-91.

Averill, S. (in press) Legal perspectives on arson. In G. Dickens, P. Sugarman and T.A. Gannon (eds) *Firesetting: Theory, Research, Practice*, pp. xx-xx. London: RCPsych Publications.

Barker, A.F. (1994) *Arson: A Review of the Psychiatric Literature*. Oxford: Oxford University Press.

Barker, K.N., Flynn, E.A., Pepper, G.A. *et al*. (2002) Medication errors observed in 36 health care facilities. *Archives of Internal Medicine*, **162**, 1897-1903.

Barker, K.N. & McConnell, W.E. (1962) Detecting errors in hospitals. *American Journal of Hospital Pharmacy*, **19**, 361-369.



- Bartlett, A. & Hassell, Y. (2001) Do women need special secure services? *Advances in Psychiatric Treatment*, **7**, 302-309.
- Bates, D.W., Cullen, D.J., Laird, N. *et al* (1995) Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE study group. *Journal of the American Medical Association*, **274**, 29-34.
- Beckwith, S., Dickinson, A. & Kendall, S. (2008) The “con” of concept analysis. A discussion paper which explores and critiques the ontological focus, reliability and antecedents of concept analysis frameworks. *International Journal of Nursing Studies*, **45**, 1831-1841.
- Beer, M.D., Paton, C. & Pereira, S. (1997) Hot beds of general psychiatry: a national survey of psychiatric intensive care units. *Psychiatric Bulletin*, **21**, 142-144.
- Benson, R. (1992) The clinical nurse specialist in forensic settings. In: P. Morrison & P. Burnard (eds) *Aspects of Forensic Psychiatric Nursing*, pp. 45-60. Aldershot: Avebury.
- Blanco, C., Alegria, A.A., Petry, N.M., *et al* (2010) Prevalence and correlates of fire-setting in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Journal of Clinical Psychiatry*, **71**, 1218-1225.
- Bluglass, R. (1978) Regional secure units and interim security for psychiatric patients. *British Medical Journal*, **1**, 489-493.



- Bowers, L., Flood, C., Brennan, G. & Allan, T. (2006) A trial to reduce conflict and containment on three acute psychiatric wards. *Journal of Psychiatric and Mental Health Nursing*, **13**, 737-742.
- Bowring-Lossock, E. (2006) The forensic mental health nurse – a literature review. *Journal of Psychiatric and Mental Health Nursing*, **13**, 780-785.
- Box, G. & Draper, N. (1987) Empirical model-building and response surfaces. London: Wiley.
- Branford, D., Knifton, C. & Jackson, S. (1997) Drug administration in day centres for people with learning disabilities. *British Journal of Nursing*, **6**, 746-750.
- Brett, A. (2004) 'Kindling theory' in arson: how dangerous are firesetters? *Australian and New Zealand Journal of Psychiatry*, **38**, 419-425.
- British Psychological Society (2010) *Forensic Psychology*, British Psychological Society website, accessed 30<sup>th</sup> December 2010, <http://www.bps.org.uk/careers/what-do-psychologists-do/areas/forensic.cfm#02>
- Brooker, C. & Gojkovic, D. (2009) The second national survey of mental health in-reach services in prisons. *Journal of Forensic Psychiatry and Psychology*, **20** (S1), 11-28.
- Burnard, P. (1992) The expanded role of the forensic psychiatric nurse. In: P. Morrison & P. Burnard (Eds.) *Aspects of Forensic Psychiatric Nursing*, pp. 139-154. Aldershot: Avebury.
- Burnard, P. & Morrisson, P. (1995) Evaluating forensic psychiatric nursing care. *Journal of Forensic Psychiatry*, **6**, 139-159.



Burns, T. (2008) *Outcome measures in mental health*. Report to the Board of Directors. Oxfordshire & Buckinghamshire Mental Health NHS Foundation Trust, 24th September, accessed 6<sup>th</sup> January 2011, [http://www.obmh.nhs.uk/wp-content/uploads/2010/04/MC15\\_Annual\\_Plan.pdf](http://www.obmh.nhs.uk/wp-content/uploads/2010/04/MC15_Annual_Plan.pdf)

Butwell, M., Jamieson, J., Leese, M. *et al* (2000) Trends in special (high-security) hospitals 2: residency and discharge episodes 1986-1995. *British Journal of Psychiatry*, **176**, 260-265.

Cacciottolo, M. (2008) 'Robbed' of the right to smoke. *BBC News*, accessed 3rd March 2008, <http://news.bbc.co.uk/1/hi/magazine/7265537.htm>

Callaghan, L. (2008) Advanced nursing practice: an idea whose time has come. *Journal of Clinical Nursing*, **17**, 205-213.

Cancer Research UK. (2007) Lung cancer and smoking statistics. *Cancer Research UK*, accessed 15<sup>th</sup> November 2010, <http://info.cancerresearchuk.org/cancerstats/types/lung/smoking/#cancer>

Carrion, M., Woods, P. & Norman, I. (2004) Barriers to research utilisation among forensic mental health nurses. *International Journal of Nursing Studies*, **41**, 613-619.

Chambers, J., Yiend, J., Barrett, B. *et al* (2009) Outcome measures used in forensic mental health research: a structured review. *Criminal Behaviour and Mental Health*, **19**, 9-27.

Cassel, E., & Bernstein, D. A. (2007). *Criminal Behaviour* (2<sup>nd</sup> edition). Needham Heights, MA: Pearson.



- Chalder, G. & Nolan, P. (2001) The role of the forensic nurse consultant observed. *British Journal of Forensic Practice*, **3**, 23-30.
- Charlton, B.G. (2001) Personal freedom or public health? In: *Medicine and humanity*. M. Marinker (Ed). London: King's Fund (pp. 55-69).
- Collins, M. & Davies, S. (2005) The security needs assessment profile: a multidimensional approach to measuring security needs. *International Journal of Forensic Mental Health*, **4**, 39-52.
- Colman, A. (2009) *A Dictionary of Psychology (3<sup>rd</sup> edition)*. OUP: Oxford
- Commission for Social Care Inspection (2006b) *Professional Advice: Training Care Workers to Safely Administer Medicines in Care Homes*. CSCI: London
- Committee on Mentally Abnormal Offenders (1975) *Report*, Cmnd 6244. London: HMSO.
- Cormac, I., Creasey, S., McNeill, A. *et al* (2010) Impact of a total smoking ban in a high secure hospital. *The Psychiatrist*, **34**, 413-417.
- Curran, J.A. & Brooker, C. (2007) Systematic review of interventions delivered by UK mental health nurses. *International Journal of Nursing Studies*, **44**, 479-509.
- Dale, C., Woods, P. & Thompson, T. (2001) Nursing. In: C. Dale, T. Thompson, & P. Woods (eds) *Forensic Mental Health: Issues in Practice*. London: Harcourt Publishers Ltd.



Daly, W.M. & Carnwell, R. (2003) Nursing roles and levels of practice: a framework for differentiating between elementary, specialist and advancing nursing practice.

*Journal of Clinical Nursing*, **12**, 158-167.

Davis, B.D. (1981) Trends in psychiatric nursing research. *Nursing Times*, **77**, 73-76.

Department of Health (1992) *Health of the Nation*. White Paper. London: HMSO

Department of Health (1999) *National service framework for mental health: modern standards and service models*. London: Department of Health.

Department of Health (2002) *Mental Health Policy Implementation Guide: National Minimum Standards for General Adult Services in Psychiatric Intensive Care Units (PICU) and Low Secure Environments*.

<http://www.mentalhealthnurse.co.uk/images/DoH%20Guidance/PIG%20PICU%20&%20Med%20Secure.pdf>

Department of Health (2007) *Best Practice Guidance: Specification for Adult Medium-secure Services*.

[http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_078050.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_078050.pdf)

Department of Health (2008) *NHS Innovations Report on Psychiatric Intensive Care Units*. London: Department of Health.

Department of Health (2010) *Mental Health Secure Services*, accessed at

<http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/healthcare/mentalhealth/policy/mentalhealthsecureservices/index.htm> 2/11/2010.



Dickens, G. (2008) Be prepared for the ban. *British Journal of Healthcare Assistants*, **2**, 185-188.

Dickens, G. & Campbell, J. (2001) Absconding of patients from an independent UK psychiatric hospital: a 3-year retrospective analysis of events and characteristics of absconders. *Journal of Psychiatric and Mental Health Nursing*, **8**, 543-550.

Dickens, G. Doyle, C. & Calvert, J. (2006) Reducing medication administration errors in learning disability nursing. *Nurse Prescribing*, **4**, 470-474.

Dickens, G., Lange, A. & Picchioni, M. (2010) 'Labelling' people who are resident in a secure forensic mental health service: user views. Manuscript submitted for publication.

Dickens, G., Picchioni, M., Sugarman, P. *et al* (2010) HoNOS-secure: tracking risk and recovery for men in secure care. *British Journal of Forensic Practice*, **12**, 36-45.

Dickens, G., Rogers, G., Rooney, C. *et al* (2009) An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study. *Journal of Psychiatric and Mental Health Nursing*, **16**, 777-783.

Dickens, G., Rogers, G. & Sugarman, P. (2005) Nurses' perceptions of the working environment: a UK independent sector study. *Journal of Psychiatric and Mental Health Nursing*, **12**, 297-302.

Dickens, G., Stubbs, J. & Haw, C. (2004) Smoking and mental health nurses: a survey of clinical staff in a psychiatric hospital. *Journal of Psychiatric and Mental Health Nursing*, **11**, 445-451.



Dickens, G., Stubbs, J. & Haw, C. (2008) Delegation of medication administration: an exploratory study. *Nursing Standard*, **22** (22), 35-40.

Dickens, G., Stubbs, J., Popham, R. *et al* (2005) Smoking in a forensic psychiatric service: a survey of inpatients' views. *Journal of Psychiatric and Mental Health Nursing*, **12**, 672-678.

Dickens, G. & Sugarman, P. (2010) Key performance indicators and HoNOS. *British Journal of Healthcare Management*, **16**, 431-435.

Dickens, G. & Sugarman, P. (in press) Differentiating firesetters: lessons from the literature on motivation and dangerousness. In G. Dickens, P. Sugarman and T.A. Gannon (eds) *Firesetting: Theory, Research and Practice*, pp. xx-xx. London: RCPsych Publications.

Dickens, G., Sugarman, P., Ahmad, F. *et al* (2007) Gender differences amongst adult arsonists at psychiatric assessment. *Medicine Science and Law*, **47**, 233-238.

Dickens, G., Sugarman, P., Edgar, S. *et al* (2009) Recidivism and dangerousness in arsonists. *Journal of Forensic Psychiatry and Psychology*, **20**, 621-639.

Dickens, G., Walker, L. & Sugarman, P. (2007) HoNOS-secure: a reliable outcome measure for users of secure and forensic mental health services. *Journal of Forensic Psychiatry and Psychology*, **18**, 507-514.

Dix, R., Pereira, S. M., Chandhry, K., *et al* (2005) A PICU/LSU Environment Assessment Inventory. *Psychiatric Intensive Care*, **1**, 65 –69.

Doll, R. Peto, R., Boreham, J. *et al* (2004) Mortality in relation to smoking: 50 years' observations on male British doctors. *British Medical Journal*, **328**, 1519.



Doyle, M. (1999) Organisational response to crisis and risk: issues and implications for mental health nurses. In T. Ryan (ed), *Managing Crisis and Risk in Mental Health Nursing*, pp. 42-56. Cheltenham: Stanley Thomas.

Duncan, C., Cloutier, J.D. & Bailey, P.H. (2007) Concept Analysis: the importance of differentiating the ontological focus. *Journal of Advanced Nursing*, **58**, 293-300.

Dunn, G. (2010) Statistical methods for measuring outcomes. In G. Thornicroft and M. Tansella (eds) *Mental Health Outcome Measures (3<sup>rd</sup> edition)*. London: RCPsych Publications.

Elsom, S., Happell, B. & Manias, E. (2005) Mental health practitioner: expanded or advanced? *International Journal of Mental Health Nursing*, **14**, 181-186.

Enayati, J., Grann, M., Lubbs, S *et al* (2008) Psychiatric morbidity in arsonists referred for forensic psychiatric assessment in Sweden. *Journal of Forensic Psychiatry and Psychology*. **19**, 139-147.

Fink, A. (1995) *The Survey Handbook*. Thousand Oaks, CA: Sage Publications Inc.

Fitzpatrick, M. (2000) *The tyranny of health: doctors and the regulation of lifestyle*. London: Routledge.

Fleiss, J.L. & Cohen, J. (1973) The equivalence of weighted kappa and the intraclass correlation coefficient as measures of reliability. *Educational and Psychological Measurement*, **33**, 613-619.

Flynn, E.A., Barker, K.N., Pepper, G.A. *et al* (2003) Comparison of methods for detecting medication errors in 36 hospitals and skilled-nursing facilities. *Archives of Internal Medicine*, **163**, 2359-2367.



Fox, J.C. (1992) Chronic mental illness. *Annual Review of Nursing Research*, **10**, 95-112.

Furedi, F. (2003) *Therapy culture. Cultivating vulnerability in an uncertain age*. London: Routledge.

Gannon, T. A., and Pina, A. (2010). Firesetting: psychopathology, theory and treatment. *Aggression and Violent Behavior*, **15**, 224-238.

Gannon, T. (2010) Female arsonists: key features, psychopathologies and treatment needs. *Psychiatry*, **73**, 173-189.

Gildberg, F.A., Elverdam, B. & Hounsgaard, L. Forensic psychiatric nursing: a literature review and thematic analysis of staff-patient interaction. *Journal of Psychiatric and Mental Health Nursing*, **17**, 359-368.

Glazer, G. (2002) Medication administration interventions that must be performed by a registered nurse. *Online Journal of Issues in Nursing*, accessed November 29<sup>th</sup> 2006, [http://www.nursingworld.org/ojin/tpclg/leg\\_12.htm](http://www.nursingworld.org/ojin/tpclg/leg_12.htm)

Gournay, K., Benson, R., & Rogers, P. (2008) Inpatient care and management. In K. Soothill, M. Dolan, & P. Rogers (eds) *Handbook of Forensic Mental Health*. Abingdon: Willan Publishing

Gowers, S.G., Harrington, R.C., Whitton, A.*et al.* (1999) Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA): Glossary for HoNOSCA score sheet. *The British Journal of Psychiatry*, **174**, 428-431.

Gravetter, F.J. and Forzano, L-A.B. (2009) *Research Methods for the Behavioural Sciences (3<sup>rd</sup> edition)*. Belmont, CA: Wadsworth Cengage Learning.



Green, B. (2009) The decline of NHS psychiatry in England. *Priory Medical Journals*, accessed 22<sup>nd</sup> February 2011,

[http://priory.com/psychiatry/Decline\\_NHS\\_Inpatient\\_Psychiatry.htm](http://priory.com/psychiatry/Decline_NHS_Inpatient_Psychiatry.htm)

Gunn, J. (1982) An English psychiatrist looks at dangerousness. *Bulletin of the American Academy of Psychiatry and the Law*, **10**, 143-153.

Haglund, K. Von Essen, L., Von Knorring, L. *et al* (2004) Medication administration in inpatient psychiatric care - get control and leave control. *Journal of Psychiatric and Mental Health Nursing*; **11**, 229-234.

Hammersley, M. & Atkinson, P. (1983) *Ethnography: Principles in Practice* (2<sup>nd</sup> Edition). London: Tavistock.

Harris, G.T. & Rice, M.E. (1996) A typology of mentally disordered firesetters. *Journal of Interpersonal Violence*, **11**, 351-363.

Hassiotis, A., Parkes, C., Jones, L. *et al*. (2007) Individual characteristics and service expenditure in challenging behaviour for adults with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, **21**, 438-445.

Haw, C., Stubbs, J. & Dickens, G. (2005) A review of medication errors reported in a large psychiatric hospital in the United Kingdom. *Psychiatric Services*, **56**, 1610-1613.

Haw, C., Stubbs, J. & Dickens, G. (2007) An observational study of medication administration errors in old-age psychiatric inpatients. *International Journal for Quality in Health Care*, **19**, 210-216.

*Health Act 2006* (c. 28), London: HMSO



Healthcare Commission (2007a). *National Audit of Violence 2006-7. Final Report – Working Age Adult Services*. Royal College of Psychiatrists Centre for Quality Improvement, accessed 12<sup>th</sup> June 2008, <http://www.rcpsych.ac.uk/PDF/!removed--WAA%20Nat%20Report%20final%20for%20Leads%2010%2012.pdf>

Healthcare Commission (2007b). *National Audit of Violence 2006-7. Final Report – Older People's Services*. Royal College of Psychiatrists Centre for Quality Improvement, accessed 12<sup>th</sup> June 2008, <http://www.rcpsych.ac.uk/PDF/OP%20Nat%20Report%20final%20for%20Leads.pdf>

Hemingway, S. & Harris, N. (2006) The development of mental health nurses as prescribers: quantifying the emergence. *Mental Health Nursing*, **26**, 14-16.

Ho, C.Y., Dean, B.S., and Barber, N.D. (1997) When do medication administration errors happen to hospital patients? *International Journal of Pharmacy Practice*, **5**, 91–96.

Holloway, F. (2002) Outcome measurement in mental health – welcome to the revolution. *British Journal of Psychiatry*, **181**, 1-2.

Horrocks, S., Anderson, E. & Salisbury, C. (2002). Systematic review of whether nurse practitioners working in primary care can provide equivalent care to doctors. *British Medical Journal*, **324** (7341), 819–823.

House of Commons Library (2009) *NHS expenditure in England. Standard Note SN/SG/724*, accessed 13<sup>th</sup> October 2011, <http://www.nhshistory.net/parlymoneypapter.pdf>



Icove, D.J. and Estepp, M.H. (1987) Motive-based offender profiles of arson and fire-related crimes. *FBI Law Enforcement Bulletin*, **56**, 17-23.

Inciardi, J. (1970) The adult firesetter. *Criminology*, **8**, 145-155.

International Committee of Medical Journal Editors (2009) *Uniform requirements for Manuscripts Submitted to Biomedical Journals: Ethical Considerations in the Conduct and Reporting of Research. Authorship and Contributorship*, accessed 15<sup>th</sup> April 2011, [http://www.icmje.org/ethical\\_1author.html](http://www.icmje.org/ethical_1author.html)

Ipsos MORI (2010) *Violence against frontline NHS staff. Research study conducted for COI on behalf of the NHS Security Management Service*. Ipsos MORI, accessed 24<sup>th</sup> February 2011,

[http://www.nhsbsa.nhs.uk/Documents/SecurityManagement/NHS\\_SMS\\_Workplace\\_Safety\\_Report\\_FINAL\\_MERGED.pdf](http://www.nhsbsa.nhs.uk/Documents/SecurityManagement/NHS_SMS_Workplace_Safety_Report_FINAL_MERGED.pdf)

Jackson, H., Glass, C., and Hope, S. (1986) A functional analysis of recidivistic arson. *British Journal of Clinical Psychology*, **26**, 175-185.

Jaycock J. & Bamber T. (2001) On the look-out. *Health Services Journal*, **111**, 26-27.

Jinks, A.M. & Chalder, G. (2007) Consensus and diversity: an action research study designed to analyse the roles of a group of mental health consultant nurses. *Journal of Clinical Nursing*, **16**, 1323-1332.

Jochelson, K. and Majrowski, B. (2006) *Clearing the air: debating smoke-free policies in psychiatric units*. London: King's Fund, accessed 16<sup>th</sup> November 2010, <http://www.spacetobreathe.org.uk/uploads/ClearingtheAir.pdf>



Jones, M. (1996) *Accountability in practice: a guide to professional responsibility for nurses in general practice*. London: Quay Books.

Jones, S.L. & Jones, P.K. (1987a) Research in psychiatric and mental health nursing: the emergence of scientific rigour. *Archives of Psychiatric Nursing*, **1**, 155-162.

Jones, S.L. & Jones, P.K. (1987b) Detecting statistically significant differences in psychiatric nursing research. *Journal of Psychosocial Nursing*, **25**, 38-42.

Kapborg, I. and Svensson, H. (1999) The nurse's role in drug handling within municipal health and medical care. *Journal of Advanced Nursing*, **30**, 950-957.

Keown, P., Mercer, G. & Scott, J. (2008) Retrospective analysis of hospital episode statistics, involuntary admissions under the Mental Health Act 1983, and number of psychiatric beds in England 1996-2006. *BMJ*, **337**: 1837

Kettles, A. (2004) A concept analysis of forensic risk. *Journal of Psychiatric and Mental Health Nursing*, **11**, 484-493.

Kettles A. & Woods P. (2006) A concept analysis of forensic nursing. *British Journal of Forensic Practice* **8**, 16-27.

Kidd, S. (1997) Arson – the problem that won't go away. *Fire Prevention*, **298**, 27-34.

Kinsella, C. & Chaloner, C. (1995) Attitude to treatment and direction of interest of forensic mental health nurses: a comparison with nurses working in other specialties. *Journal of Psychiatric and Mental Health Nursing*, **2**, 351-357.

Landis, J.R. & Koch, G.G. (1977) The measurement of observer agreement for categorical data. *Biometrics*, **33**, 159-174.



- Langton, D. (2008) Nurse consultants in forensic mental health care in Scotland. In National Forensic Nurses' Research and Development Group (Eds) *Forensic Mental Health Nursing: capabilities, roles and responsibilities*. London: Quay Books.
- Lester, H. and Wilson, S. (1999) Practical problems in recruiting patients with schizophrenia into randomised controlled trials. *BMJ*, **318** (7190): 1075.
- Lewis, N. D. C. and Yarnell, H. (1951) Pathological Fire Setting (Pyromania): Nervous and Mental Disease Monograph Number **82**. New York: Coolidge Foundation.
- Lichtermann, D., Ekelund, E., Pukkala, E. *et al* (2001) Incidence of cancer among persons with schizophrenia and their relatives. *Archives of General Psychiatry*, **58**, 573-578.
- Long, C., Dickens, G., Sugarman, P. *et al* (2010) Tracking risk profiles and outcome in a medium secure service for women: use of the HoNOS-secure. *International Journal of Forensic Mental Health*, **9**, 215-225.
- Long, C., Hollin, C. and Dickens, G. (in press) Women fire setters admitted to secure psychiatric services: characteristics and treatment needs. In G. Dickens, P. Sugarman and T.A. Gannon (eds) *Firesetting: Theory, Research and Practice*, pp. xx-xx. London: RCPsych Publications.
- Lyons, T. (2009) Role of the forensic psychiatric nurse. *Journal of Forensic Nursing*, **5**, 53-57.



McCarthy, G., Hegarty, J. & O' Sullivan, D. (2006) Nursing Research in Ireland, Chapter 12, *Annual Review of Nursing Research* Volume **24**, 295-331 New York: Springer Publications.

McKenna, J. (1996) In-patient characteristics in a regional secure unit. *Psychiatric Bulletin*, **20**, 264-268.

Maidment, I.D., Lelliott, P., & Paton, C.(2006) Medication errors in mental health care: a systematic review. *Quality and Safety in Health Care*, **15**, 409–413.

Maidment, I. D., Haw, C., Stubbs, J., *et al* (2008). Medication errors in older people with mental health problems: a review. *International Journal of Geriatric Psychiatry*, **23**, 564-573.

Manley, K. (1997) A conceptual framework for advanced practice: an action research project operationalising an advanced practitioner/ consultant nurse role. *Journal of Clinical Nursing*, **6**, 179-190.

Martin, T. (2001) Something special: forensic psychiatric nursing. *Journal of Psychiatric and Mental Health Nursing*, **8**, 25-32.

Mashour, G.A., Walker, E.E., Martuza, R.L. (2005). "Psychosurgery: past, present and future". *Brain Research Review*, **48**, 409–418.

Mason T. (2002) Forensic psychiatric nursing: a literature review and thematic analysis of role tensions. *Journal of Psychiatric and Mental Health Nursing* **9**, 511–524.



Mason T., Lovell A. & Coyle D. (2008a) Forensic psychiatric nursing; skills and competencies I role dimensions. *Journal of Psychiatric and Mental Health Nursing* **15**, 118–130.

Mason T., Coyle D. & Lovell A. (2008b) Forensic psychiatric nursing; skills and competencies. II clinical aspects. *Journal of Psychiatric and Mental Health Nursing* **15**, 131–159.

Mason, T., Dulson, J. & King, L. (2009a) Binary constructs of forensic psychiatric nursing: a pilot study. *Journal of Psychiatric and Mental Health Nursing*, **16**, 158-166.

Mason, T., King, L. & Dulson, J. (2009b) Binary construct analysis of forensic psychiatric nursing in the UK: high, medium and low security services. *International Journal of Mental Health Nursing*, **18**, 216-224.

Mason, T. & Phipps, D. (2010) Forensic learning disability nursing skills and competencies: a study of forensic and non-forensic nurses. *Issues in Mental Health Nursing*, **31**, 708-715.

Merchant, C. (2007) Matching skills to needs. *Mental Health Today*, April, 23-25.

Merwin, E. & Mauck (1995) Psychiatric nursing outcome research: the state of the science. *Archives of Psychiatric Nursing*, **IX** (6), 311-331.

Mezey, G. (2007) Victims and forensic psychiatry: marginal or mainstream. *Criminal Behaviour and Mental Health*, **17**, 131-136.



Mind (2008) Mental health service users need more help to stub out smoking. *Mind*, accessed 3<sup>rd</sup> March 2008,

<http://www.mind.org.uk/News+policy+and+campaigns/Press/Smoking+ban.htm>

Mohan, R., Judge, J. & Fahy, T. (2004) Community forensic psychiatry. *Psychiatry*, **3**, 11-14.

Moss, K.R. (1999) A study of patients identified as unmanageable prior to admission to an independent sector medium-secure hospital. *Medicine, Science and Law*, **39**, 319-324.

Moss, K.R., Green, C.M. & Naismith, L.J. (1996) A study of admissions to an independent medium-secure hospital. *Medicine, Science and Law*, **38**, 242-248.

Mott, A., Dobson, P., Walton, J. *et al* (2009) Breakaway training for NHS staff: time for a fresh approach? *Journal of Mental health Training, Education and Practice*, **4**, 37-45.

National Forensic Nurses Research and Development Group (eds) (2008) *Forensic Mental Health Nursing: Capabilities, Roles and Responsibilities*. London: Quay Books.

National Institute for Clinical Excellence (2005). *Violence: The short-term management of disturbed/ violent behaviour in in-patient psychiatric settings and emergency departments*. London: Royal College of Nursing.

National Institute for Mental Health in England (2005). *Health policy implementation guide: Developing positive practice to support the safe therapeutic management of aggression and violence in mental health in-patient settings*, accessed 1<sup>st</sup> December



2008, [http://www.positive-options.com/news/downloads/NIMHE\\_-\\_Developing\\_Positive\\_Practice\\_-\\_2004.pdf](http://www.positive-options.com/news/downloads/NIMHE_-_Developing_Positive_Practice_-_2004.pdf)

National Statistics (2006) Cigarette smoking: slight fall in smoking prevalence.

*National Statistics*, accessed 3<sup>rd</sup> March 2008,

<http://www.statistics.gov.uk/cci/nugget.asp?id=866>

Newman, A. & Jones, R. (2006) Authorship of research papers: ethical and professional issues for short-term researchers. *Journal of Medical Ethics*, **32**, 420-423.

Nursing and Midwifery Council (2004) *The NMC code of professional conduct: standards for conduct, performance and ethics*. NMC: London, accessed 20<sup>th</sup>

November 2006, <http://www.nmc-uk.org/aDisplayDocument.aspx?DocumentID=201>]

Nursing and Midwifery Council (2001). *The recognition, prevention and therapeutic management of violence in mental healthcare*, accessed 01/06/2008,

<http://www.nmc-uk.org/aDisplayDocument.aspx?DocumentID=664>

O'Herlihy, A., Worrall, A., Lelliott, P., et al (2003) Distribution and characteristics of in-patient child and adolescent mental health services in England and Wales. *British Journal of Psychiatry*, **183**, 547-551.

Office of the Deputy Prime Minister (2002) *The burning issue: research and strategies for reducing arson*. London: ODPM.

Office of the Deputy Prime Minister (2005) *The Economic Cost of Fire: Estimates for 2003*. London: Office of the Deputy Prime Minister.



Office for National Statistics (2005) *United Kingdom: estimated resident population by single year of age and sex; Mid – 2004 Population Estimates*, accessed 10<sup>th</sup> August 2010, <http://www.census.gov/main/www/popclock.html>

Pagani, L. & Pinard, G-F. (2000) Clinical assessment of dangerousness: an overview of the literature. In G-F. Pinard and L. Pagani (eds) *Clinical Assessment of Dangerousness: Empirical Contributions*, pp. 1-22. Cambridge: Cambridge University Press.

Paley, J. (1996) How not to clarify concepts in nursing. *Journal of Advanced Nursing*, **24**, 572-578.

Palmer, E. J., Caulfield, L. S., & Hollin, C. R. (2007). Interventions with arsonists and young firesetters: a survey of the national picture in England and Wales. *Legal and Criminological Psychology*, **12**, 101-116.

Patel, M.X., Robson, D., Rance, J *et al.* (2009) Attitudes regarding mental health nurse prescribing among psychiatrists and nurses: a cross-sectional questionnaire study. *International Journal of Nursing Studies*, **46**, 1467-1474.

Pereira, S. & Dalton, D. (2006) Integration and specialism: complementary not contradictory. *Journal of Psychiatric Intensive Care*, **2**, 1–5.

Pereira, S., Dawson, P. & Sarsam, M. (2006) National survey of PICU: 2 units characteristics. *Journal of Psychiatric Intensive Care*, **2**, 7-12.

Phillips, J., Beam, S., Brinkner, A. *et al* (2001) Retrospective analysis of mortalities associated with medication errors. *American Journal of Health Systems Pharmacy*, **58**, 1824–1829.



Pirkis, J.E., Burgess, P.M., Kirk, P.K. *et al* (2005) A review of the psychometric properties of the Health of the Nation Outcome Scales (HoNOS) family of measures. *Health and Quality of Life Outcomes*, **3**, 76.

Pollock, A.M. (2004) *NHS plc*. London: Verso.

Prins, H. (1994) *Fire-raising: Its Motivation and Management*. London: Routledge.

Prins, H. (2005) The motivation of arsonists – reflections on research and practice. *British Journal of Forensic Practice*, **1**, 6-11.

Prot, S., Fontan, J.E., Alberti, C. *et al* (2005) Drug administration errors and their determinants in pediatric in-patients. *International Journal of Quality in Health Care*, **17**, 381–389.

*R v Calladine* (1975) Psychiatric reports should be obtained before sentencing.  
November 25.

*R v Hoof* (1980) 2 *Cr.App.R.(S.)* 299 There should be separate counts alleging arson with intent to endanger life and arson reckless as to whether life endangered.

Raleigh, V.S., Polato, G.M., Bremner, S.A., *et al* (2008) Inpatient mental health care in England & Wales: patterns in NHS and independent healthcare providers. *Journal of The Royal Society of Medicine*, **101**, 544-551.

Rautaheimo, J. (1989) Finnish study of 180 arsonists arrested in Helsinki. *Fire Prevention*, **233**, 30-34.



- Reed, S., Russell, A., Xenitdis, K. & Murphy, D.G.M. (2004) People with learning disabilities in a low secure in-patient unit: comparison of offenders and non-offenders. *British Journal of Psychiatry*, **185**, 499-504.
- Reinhard, S.C., Young, H.M., Kane, R.A. *et al.* (2006) Nurse delegation of medication administration for older adults in assisted living. *Nursing Outlook*, **54**, 74-80.
- Ridge, K.W., Jenkins, D.B., and Barber, N.D. (1995) Medication errors during hospital drug rounds. *Quality in Health Care*, **4**, 240-243.
- Risjord, M. (2007) Rethinking concept analysis. *Journal of Advanced Nursing*, **65**, 684-691.
- Ritchie, E.C. & Huff, T.G. (1999) Psychiatric aspects of arsonists. *Journal of Forensic Science*, **44**, 733-740.
- Rix, K.J.B. (1994) A psychiatric study of adult arsonists. *Medicine, Science and the Law*, **34**, 21-34.
- Robinson, D. & Reed, V. (1996) *Measuring Forensic Psychiatric and Mental Health Nursing Interactions*. Aldershot: Avebury.
- Robson, C. (1993) *Real World Research*. Oxford: Blackwell Science.
- Rogers, P., Ghroum, P., Benson, R. *et al* (2006). Is breakaway training effective? An audit of one medium secure unit. *Journal of Forensic Psychiatry and Psychology*, **17**, 593-602.



Rogers, P., Miller, G., Paterson, B. *et al* (2007). Is breakaway training effective? Examining the evidence and the reality. *Journal of Mental Health Training, Education and Practice*, **2**, 5-12.

Roy, A., Matthews, H., Clifford, P. *et al*. (2002) Health of the Nation Outcome Scales for People with Learning Disabilities (HoNOS-LD). *British Journal of Psychiatry*, **180**, 61-66.

Royal College of Nursing (2010) *Advanced nurse practitioners – an RCN guide to the advanced nurse practitioner role, competences and programme accreditation*. London: Royal College of Nursing.

Royal College of Physicians (2010) *Medical rehabilitation in 2011 and beyond. Report of a joint working party of the Royal College of Physicians and the British Society of Rehabilitation Medicine*. London: Royal College of Physicians.

Royal College of Psychiatrists (2008) *RCPsych: Smoking ban grudgingly accepted by patients at medium secure hospital*. Report from Faculty of Forensic Psychiatry Annual Residential Conference: 32 years on – current dilemmas in Forensic psychiatry, Adelphi Hotel, Liverpool, accessed 3<sup>rd</sup> March 2008, <http://www.politics.co.uk/press-releases/rcpsych-smoking-ban-grudgingly-accepted-by-patients-at-medium-secure-hospital-1198190.htm>

Royal College of Psychiatrists (2010) Forensic psychiatry information. *The Royal College of Psychiatrists* website, accessed 30<sup>th</sup> December 2010, <http://www.rcpsych.ac.uk/specialties/faculties/forensic/aboutforensicpsychiatry.aspx>



- Ruel, J. & Motyka, C. (2009) Advanced practice nursing: a principle-based concept analysis. *American Academy of Nurse Practitioners*, **21**, 384-392.
- Rush, S., Fergy, S. & Wells, C. (1996) Care planning: knowledge for practice. *Nursing Times*, **92** (36).
- Sainsbury Centre for Mental Health (2007) *Forensic Mental Health Services. Facts and Figures on Current Provision*. London: Sainsbury Centre for Mental Health.
- Salvi, G., Leese, M. & Slade, M. (2005) Routine use of mental health outcome assessments: choosing the measure. *British Journal of Psychiatry*, **186**, 146-152.
- Schmeiding, N.J. (1993) *Ida Jean Orlando. A nursing process theory, Volume 12*. Los Angeles: SAGE Publications.
- Sheer, B. & Wong, K.Y.W. (2008) The development of advanced nursing practice globally. *Journal of Nursing Scholarship*, **40**, 204-211.
- Shetty, A., Alex, R. & Bloye, D. (2010) The experience of a smoke-free policy in a medium-secure hospital. *The Psychiatrist*, **34**, 287-289.
- Shum, C., Humphreys, A., Wheeler, D., Cochrane, M.-A., Skoda, S. & Clement, S. (2000). Nurse management of patients with minor illnesses in general practice: Multicentre, randomised controlled trial. *British Medical Journal*, **320** (7241), 1038-1043.
- Sills, G.M. (1977) Research in the field of psychiatric nursing 1952-1977. *Nursing Research*, **26**, 201-207.



Sitzia, J. & Wood, N. (1998) Response rate in patient satisfaction research: an analysis of 210 published studies. *International Journal for Quality in Healthcare*, **10**, 311-317.

Slade, M., McCrone, P., Kuipers, E. *et al* (2006) Use of standardised outcome measures in adult mental health services. *British Journal of Psychiatry*, **189**, 330-336.

Soothill, K. (1990) Arson. In R. Bluglass and P. Bowden (eds), *Principles and Practice of Forensic Psychiatry*, London and Edinburgh: Churchill Livingstone.

Spellbring, A.M. & Ryan, J.W. (2003) Medication administration by unlicensed caregivers: a model program. *Journal of Gerontological Nursing*, **29**, 48-54.

Storey, L. & Bradshaw, B. (2000) Nursing in a secure health setting. *Nursing Standard*, **14**(16), 60-61.

Stubbs, B. & Dickens, G. (2008) Prevention and management of aggression in mental health: an interdisciplinary discussion. *International Journal of Therapy and Rehabilitation*, **15**, 351-356.

Stubbs, B. & Dickens, G. (2009) Physical assault by patients against physiotherapists working in mental health settings. *Physiotherapy*, **95**, 170-175

Stubbs, J., Haw, C. & Dickens, G. (2008) Dose form modification – a common but potentially hazardous practice. A literature review and study of medication administration to older psychiatric inpatients. *International Psychogeriatrics*, **20**, 616-627.

Sugarman, P. (2011) A perspective on the UK market for secure hospital care. *Journal of Care Services Management*, **5**, 7-9.



Sugarman, P. & Dickens, G. (2009) Dangerousness in firesetters: a survey of psychiatrists' views. *Psychiatric Bulletin*, **33**, 99-101.

Sugarman, P., Walker, L. & Dickens, G. (2009) Managing outcome performance in mental health using HoNOS: experience at St Andrew's Healthcare. *Psychiatric Bulletin*, **33**, 285-288.

Sugarman, P. & Watkins, J. (2004) Balancing the scorecard: key performance indicators in a complex healthcare setting. *Clinician in Management*, **12**, 129-132.

Tait, L. & Lester, H. (2005) Encouraging user involvement in mental health services. *Advances in Psychiatric Treatment*, **11**, 168-175.

The Stationery Office (2000) The NHS Plan: a plan for investment and reform. London: The Stationery Office.

Thurtle, V. (2000) An audit of drug incidents in learning disability group homes. *British Journal of Community Nursing*, **5**, 170-174.

Timmons, D. (2010) Forensic psychiatric nursing: a description of the role of the psychiatric nurse in a high secure psychiatric facility in Ireland. *Journal of Psychiatric and Mental Health Nursing*, **17**, 636-646.

Tissot, E., Cornette, C., Limat, S. *et al* (2003) Observational study of potential risk factors of medication administration errors. *Pharmacy World and Science*, **25**, 264-268.

Torn, A. & McNichol, E. (1998) A qualitative study utilizing a focus group to explore the role and concept of the nurse practitioner. *Journal of Advanced Nursing*, **27**, 1202-1211.



Tsuang, M.T., Woolson, R.F., and Fleming, J.A. (1980) Premature deaths in schizophrenia and affective disorders: an analysis of survival curves and variables affecting the shortened survival. *Archives of General Psychiatry*, **37**, 979–983.

Tsuang, M.T., Perkins, K., and Simpson, J.C. (1983) Physical diseases in schizophrenia and affective disorder. *Journal of Clinical Psychiatry*; **44**, 42–46.

United Kingdom Central Council for Nursing and Midwifery (1999) Nursing in secure environments. London: UKCC.

US Census Bureau (2010) *US and world population clocks*, accessed 10<sup>th</sup> August 2010, <http://www.census.gov/main/www/popclock.html>

Vaughn, M.G., Qiang, F., DeLisi, M., *et al* (2010) Prevalence and correlates of fire-setting in the United States: results from the National Epidemiological Survey on Alcohol and Related Conditions. *Comprehensive Psychiatry*, **51**, 217-223

Walker, L.O. & Avant, K.C. (1988) *Strategies for Theory Construction in Nursing* (2<sup>nd</sup> edition). Appleton and Lange: Norwalk, Connecticut.

Webster, C.D., Douglas, K.S., Eaves, D. *et al* (1997) *HCR-20: Assessing Risk for Violence (Version 2)*. Vancouver, British Columbia, Canada: Simon Fraser University.

Winstanley, S. & Whittington, R. (2004) Aggression towards health care staff in a UK general hospital: variation among professions and departments. *Journal of Clinical Nursing*, **13**, 3-10.



Woods, P. (2004) The person who uses forensic mental health services. In I. Norman and I. Ryrie (eds). *The Art and Science of Mental Health Nursing: A Textbook of Principles*. Maidenhead: Open University Press.

Woods, P. & Richards, D. (2003) Effectiveness of nursing interventions in people with personality disorders. *Journal of Advanced Nursing*, **44**, 154-172.

Wright, S., Sayer, J., Par, A.M. *et al* (2005). Breakaway and physical restraint techniques in acute psychiatric nursing: Results from a national survey of training and practice. *Journal of Forensic Psychiatry and Psychology*, **16**, 380-398.

Yonge, O., Austin, W., Zhou Qiuping, P., Wacko, M., Wilson, S. & Zaleski, J. (1997) A systematic review of the psychiatric/ mental health nursing research literature 1982-1992. *Journal of Psychiatric and Mental Health Nursing*, **4**, 171-177.

Zauszniewski, J.A. & Suresky, J.S. (2004) Evidence for psychiatric nursing practice: an analysis of three years of published research. *The Online Journal of Issues in Nursing*, **9**(1), accessed 5<sup>th</sup> January 2011,

<http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume92004/No1Jan04/HirshArticle/EvidenceforPsychiatricNursingPractice.aspx>



APPENDIX I

Empirical papers supporting the thesis



### **Paper 1**

Dickens, G., Sugarman, P., Ahmad, F. *et al* (2007) Gender differences amongst adult arsonists at psychiatric assessment. *Medicine Science and Law*, **47**, 233-238.

### **Paper 2**

Dickens, G., Sugarman, P., Edgar, S. *et al* (2009) Recidivism and dangerousness in arsonists. *Journal of Forensic Psychiatry and Psychology*, **20**, 621-639.

### **Paper 3**

Dickens, G., Stubbs, J., Popham, R. *et al* (2005) Smoking in a forensic psychiatric service: a survey of inpatients' views. *Journal of Psychiatric and Mental Health Nursing*, **12**, 672-678.

### **Paper 4**

Dickens, G., Stubbs, J. & Haw, C. (2004) Smoking and mental health nurses: a survey of clinical staff in a psychiatric hospital. *Journal of Psychiatric and Mental Health Nursing*, **11**, 445-451.

### **Paper 5**

Dickens, G., Rogers, G., Rooney, C. *et al* (2009) An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study. *Journal of Psychiatric and Mental Health Nursing*, **16**, 777-783.

### **Paper 6**

Stubbs, B. & Dickens, G. (2009) Physical assault by patients against physiotherapists working in mental health settings. *Physiotherapy*, **95**, 170-175

### **Paper 7**

Haw, C., Stubbs, J. & Dickens, G. (2007) An observational study of medication administration errors in old-age psychiatric inpatients. *International Journal for Quality in Health Care*, **19**, 210-216.

### **Paper 8**

Dickens, G., Stubbs, J. & Haw, C. (2008) Delegation of medication administration: an exploratory study. *Nursing Standard*, **22** (22), 35-40.

### **Paper 9**

Dickens, G., Walker, L. & Sugarman, P. (2007) HoNOS-secure: a reliable outcome measure for users of secure and forensic mental health services. *Journal of Forensic Psychiatry and Psychology*, **18**, 507-514.

### **Paper 10**

Dickens, G., Picchioni, M., Sugarman, P. *et al* (2010) HoNOS-secure: tracking risk and recovery for men in secure care. *British Journal of Forensic Practice*, **12**, 36-45.



## APPENDIX II

Related publications, citations on PubMed, other dissemination and related professional activities in each topic area



## Gender differences amongst adult arsonists at psychiatric assessment

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### ABSTRACT

Reports of gender differences amongst arsonists at psychiatric assessment are not uncommon, however some are based on relatively small samples. A new retrospective study highlighting gender differences could help to confirm or refute the current state of knowledge. The aim of the current study was to examine gender differences amongst a sample of 167 adult arsonists (129 males and 38 females). Information was collected from clinical records on socio-demographic, family background and childhood factors; adult adjustment; fire setting history; motives; features of pyromania and other offending, from the case notes of a group of arsonists referred to the West Midlands Psychiatry Service over a 24-year period. Female arsonists were older than males and more likely to have a psychiatric diagnosis. Women more frequently had a history of sexual abuse, while men had a more varied criminal background and more substance abuse problems. Our findings largely support previous research, and are discussed in this context, whilst also bringing attention to a more recently developed theory (Action System Model). Significant gender differences amongst arsonists indicates that different emphases in the treatment of male and female arsonists may be advisable, though a reliable evidence base for treatment has yet to be established.

### INTRODUCTION

Since 1993 there have been 2.4 million proven or suspected arson fires resulting in 32,000 injuries and 1,200 deaths, and in 1999 arson cost England and Wales £2.1 billion (Office of the Deputy Prime Minister, 2003). Historically, arson has been considered a male crime. In the first major study, conducted in the United States (Lewis and Yarnell 1951), males accounted for 85% of the sample group. More recently, in the UK, females are reported to account for 28% of fire-setters referred to a forensic psychiatry service over a four year period (Puri et al, 1995) and 15.7% of those referrals for pre-trial psychiatric reports were subsequently convicted of arson (Rix, 1994). In Finland, the percentage of females convicted of arson increased by 0.2% annually between 1965 and 1991 (Räsänen et al, 1995), but no similar UK statistics are available. Nevertheless, it is evident that women commit a small but significant proportion of arson. Research consistently reports that, compared



with males, female arsonists are more likely to have a history of childhood sexual abuse (Puri et al, 1995; Noblett and Nelson, 2001) and lower IQ or increased incidence of mental retardation (Lewis and Yarnell, 1951; Räsänen et al, 1994). However, for many other socio-demographic, historical, pathological and motivational variables few significant differences are reported (Lowenstein, 2003). The current study aimed to examine gender differences amongst a sample of arsonists referred for psychiatric assessment and to discuss the findings in the context of the current research knowledge.

## METHOD

The study was designed to describe, retrospectively, male and female fire-setters over a wide range of variables and to identify significant differences within six domains, namely (i) socio-demographic, family background and childhood factors (ii) adult adjustment (iii) fire-setting history (iv) motives (v) features of pyromania and (vi) other offending. Over a 24 year period, 450 cases of arson were referred to the West Midlands Regional Forensic Psychiatry Service. Patients were recorded in a card index by offence; arson representing a little over 10% of cases. An examination of the psychiatric and psychological literature on arson and of a sample of case-sheets resulted in the generation of a list of variables of interest. An on-screen data collection sheet was designed with guidance notes and help screens to facilitate inter-rater reliability. A group of qualified psychiatric practitioners was trained in its use. With over 100 data entry fields the database covers a wide range of issues including recorded criminal convictions, kindly supplied by the Home Office. Social class was rated based on either the patient's own highest occupational level, or that of their father. Motive was ascribed either by noting the view of the clinician, if formulated, or by the rater where the narrative of the case allowed.

Excluding lost records, non-attendees, patients who had refused to be interviewed, and those re-referred after a further offence, details of clinical assessment were available on

404 subjects. On account of the lengthy process of rating case-sheets accurately, a random sample of half the population (N=202) was selected for further study. Of these, criminal records were returned by the Home Office on 180, although some information on past criminal convictions was available in the clinical notes for almost all patients. Later offences (whether arson or not) often led to repeat referral, or were noted during psychiatric follow-up. Thus good information on criminal convictions was collected for well over 90% of cases. Interestingly, at least fourteen patients were found not guilty in court, even though several of these described or admitted involvement at psychiatric interview. Those who were over the age of eighteen at the time of assessment were selected from the original 202 cases for analysis (N=167).

Resulting data was entered into SPSS 11.5 for analysis. Independent comparisons were carried out between the sexes for all variables across all six domains, utilising chi-square with Yates' Continuity Correction and, where appropriate, Fisher's exact test for categorical data, and independent samples t-tests for continuous data. Odds ratios with 95% confidence intervals were calculated to show the relative risk for females for each categorical variable.

## RESULTS

From the sample of 167, 129 (77.2%) were male and 38 (22.8%) female. Subjects' age at assessment varied from 18 to 77 years (mean = 29 years, s.d. 11.3 years). Ninety-two (55.1%) subjects were single or separated, and 144 (86.2%) were white. The rating team graded the 167 case-sheets according to the apparent completeness of information as 'good', 'limited' or 'poor'. One hundred and ten (65.9%) were rated as 'good', 50 (29.9%) as 'limited', and seven (4.2%) as 'poor'. Comparison by gender on 101 variables across six domains uncovered a number of significant differences. Statistically significant results are described in the text below. Full tabulated results for all 101 variables are available from the first author.

About a third of women were single compared with just over 60% of men who were



married or co-habiting ( $\chi^2=7.61$ ,  $df=1$ ,  $p<0.01$ ). Women (3/38, 7.9%) were less likely than men (25/129, 19.4%) to have attended special school ( $\chi^2=4.10$ ,  $df=1$ ,  $p<0.05$ ). Fewer women (3/38, 7.9%) than men (36/129, 27.9%) had a childhood history of stealing ( $\chi^2=5.50$ ,  $df=1$ ,  $p<0.05$ ). Women (8/38, 21.1%) were significantly more likely than men (4/129, 3.1%) to have suffered sexual abuse (Fisher's exact test,  $df=1$ ,  $p<0.001$ ). More than half of all women sampled suffered from a diagnosable psychiatric illness, chiefly affective disorder, significantly more than the 22% of men ( $\chi^2=12.24$ ,  $df=1$ ,  $p<0.001$ ). A history of relationship difficulties was more prevalent amongst women (33/38, 86.8%) than men (85/129, 65.9%). Women were also less likely ( $\chi^2=4.34$ ,  $df=1$ ,  $p<0.05$ ) to have an alcohol problem (16/38, 42.0%) than men (81/129, 62.8%).

In terms of fire-setting history, women (8/38, 21.0%) were significantly less likely ( $\chi^2=12.85$ ,  $df=1$ ,  $p<0.001$ ) to be intoxicated at the time of the fire than men (72/129, 55.8%). Women (2/38, 5.3%) were also less likely ( $\chi^2=6.14$ ,  $df=1$ ,  $p<0.05$ ) to stay and watch the fire than men (26/129, 25.6%). Fires set by women were more commonly ( $\chi^2=8.54$ ,  $df=1$ ,  $p<0.01$ ) done so in occupied domestic properties (34/38, 89.5%) than those set by men (81/129, 62.8%). Proportionally, women (26/38, 68.4%) were more likely ( $\chi^2=10.94$ ,  $df=1$ ,  $p<0.01$ ) to start fires on or with fabric than were men (47/129, 36.4%). Women were less likely than men to be involved in fires started at an industrial/workplace (2/38, 5.3% vs 43/129, 33.3%,  $\chi^2=10.37$ ,  $df=1$ ,  $p<0.01$ ) or in vehicles (0/38, 0.0% vs 17/129, 13.2%, Fisher's exact test,  $df=1$ ,  $p<0.05$ ). Females were less likely to set fire to the structure of a building than men (9/29, 31.0% vs 65/129 50.4%, ( $\chi^2=7.00$ ,  $df=1$ ,  $p<0.01$ ) or on rubbish (4/38, 10.5% vs 53/129, 41.1% ( $\chi^2=10.87$ ,  $df=1$ ,  $p<0.001$ ). Women (mean 32.2 years,  $sd=13.4$  years) were older than men (mean=28.6 years,  $sd=10.5$  years) at the age of their first fire ( $t=1.72$ ,  $df=165$ ,  $p=0.09$ ) but this did not reach statistical significance. Data for fire-setting motive uncovered only one significant difference, that being that fires set by women (14/38, 36.8%) were more likely ( $\chi^2=5.10$ ,  $df=1$ ,

$p<0.05$ ) to include an element of attention-seeking or parasuicide than those set by men (23/129, 17.8%). Women were less likely on a range of variables to display features of pyromania including 'no motive' (5/38, 13.2% vs 42/129, 32.6%,  $\chi^2=4.55$ ,  $df=1$ ,  $p<0.05$ ), 'interest and pleasure in fire or its aftermath' (1/38, 2.6% vs 27/129, 20.9%,  $\chi^2=5.80$ ,  $df=1$ ,  $p<0.05$ ). A prior offending history was less frequent for women than men: women (17/38, 44.7%) had significantly fewer ( $\chi^2=9.83$ ,  $df=1$ ,  $p<0.01$ ) convictions for theft than men (95/129, 73.6%) and fewer convictions for vehicle offences (1/38, 2.6% vs 53/129, 41.1%,  $\chi^2=18.12$ ,  $df=1$ ,  $p<0.001$ ). Women were significantly older (mean=28.8 years,  $sd=12.0$  years) than men (mean=22.4 years,  $sd=11.1$  years) at the time of their first criminal conviction ( $t=3.04$ ,  $df=165$ ,  $p<0.05$ ). Women (mean=1.3 years,  $sd=2.9$  years) had typically spent less time than men (mean=3.6 years,  $sd=5.3$  years) in prison ( $t=-2.56$ ,  $df=165$ ,  $p<0.05$ ).

## DISCUSSION

The current study describes gender differences amongst arsonists across a wide range of variables across six domains (socio-demographic, family background and childhood factors; adult adjustment factors; fire-setting history; motives; features of pyromania; and other offending). Both the size of the sample ( $N=167$ ), and the range of variables make this one the largest studies of gender differences amongst adult arsonists. Many of our findings support previously reported research. We found female arsonists to be older and more diverse in age, as did Rix (1994), although this finding did not reach statistical significance. Puri et al. (1995) report similar incidences of physical abuse, family criminality and family psychiatric problems across gender; findings that are also supported by the current study. History of childhood sexual abuse is reported by Lowenstein (2003) as being the one variable consistently found in studies to be significantly more prevalent amongst female arsonists, and again our results support this. In our sample, schooling difficulties were common with 71 (42.5%) judged to be a poor student and 70 (41.9%) reported to have below average IQ,



though no significant gender differences were found. This supports findings by Rix (1994) and Saunders and Awad (1991). Almost half of the sample (76, 45.5%) met criteria for childhood conduct disorder, but again no significant gender differences were found.

We found that more than half (23, 61%) of the female arsonists in our sample met the criteria for a diagnosable psychiatric illness, significantly more than the 49 (38%) of male arsonists. Such findings are also common in the research literature; for example, Rix (1994) reports higher prevalence of depression and psychoses amongst females, and women arsonists also have relatively high incidence of self-mutilation (Noblett and Nelson, 2001; Swinton and Ahmed, 2001). The overall proportion amongst our sample with a diagnosable psychiatric illness was 43.1%, somewhat lower than previous estimates of incidence at assessment which range from 64% (Puri et al., 1995) to 87% (Rix, 1994). Past research indicates that females are more likely to be presumed to be suffering from a mental illness and diverted from prosecution (Tennant et al., 1971; Puri et al., 1995) which may partly explain why females are generally found to have a diagnosable psychiatric illness. However, it may be that women fire-setters are genuinely more disturbed as measured by psychotic features, for example as reported by Stewart (1993). Despite finding more psychiatric illness in female fire-setters, we did not find significantly higher rates of self-harm in females, as previously reported by Swinton and Ahmed (2001). However, more women were found to set fires for attention-seeking/parasuicide than men, possibly supporting the hypothesis that, for females, fire-setting is self-destructive and may be used interchangeably with self-harm (Coid et al., 1999). The picture of differential patterns of problems between males and females is further confirmed by findings of a very high (87%) incidence of relationship difficulties for females and alcohol problems amongst nearly two-thirds of males.

We found that females were older (mean=32.2 years, s.d.=13.4 years) than males (mean=28.6 years, s.d.=10.5 years) when setting their first known fire, in contrast to findings by

Swinton and Ahmed (2001). However, like Swinton and Ahmed (2001), we found no difference in number of known fires. In terms of firesetting history, we found males more likely to have been intoxicated at a previous fire (as did Rix, 1994), and a significant minority of them to have stayed to watch fires in the past. The vast majority of women (34, 89%) in our study set fire to domestic premises, supporting previous reports that females more often set fire to personal and residential targets (Tennant et al., 1971; Scott, 1978; Stewart, 1993). Males are more likely to set fire to industrial/workplace targets, and vehicles (also reported by Rix, 1994). In terms of other previous criminal history we found males to have been convicted for other crimes at an earlier age (mean=22.4 years, s.d.=11.1 years) than females (mean=28.8 years, s.d.=12.0 years). In the main, males had previous convictions for minor aggression (73, 57%), vehicle offences (53, 41%) and theft (95, 74%).

Motives given for arson are diverse and multiple, though the commonest reported motive for both men and women is revenge or anger (Rix, 1994). It was also found to be a factor for many (93, 55.7%) arsonists in the current study. Retrospective ascription of motive is difficult, reliant as it is upon patient self-report and good quality clinical notes and we were unable to attribute many acts to, for example, political or financially driven motives. It was apparent, for both men and women, that many arson events (90, 53.9%) had taken place in the context of a recent major life event (for example bereavement or other loss). Rix (1994) reports that males, more than females, set fires for their own sake rather than in pursuit of a particular end. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1994) defines pyromania as repeated deliberate and purposeful firesetting that is not undertaken for gain or to cover up traces of another crime. Features of pyromania include arousal prior to setting a fire, fascination with, and attraction to, fire, and pleasure at setting fires or participating in their aftermath. We did find that significantly more males met DSM-IV criteria for pyromania,



though this was only present in around a quarter (31, 24%) of male cases. The picture remains unclear and, like Saunders and Awad (1991) and Coid et al. (1999), we found several females to be preoccupied with fire.

In recent years new thinking around arson, and other forms of destructive behaviour, has led to the application of an Action System Model to arson (Fritzson et al., 2001; Almond et al., 2005). This model proposes that all criminal activities are 'open', in that they involve a transaction with either an individual or the environment and that in modelling such 'open' behaviour one must consider both the sources of the action (internal or external) and the effect or desired target of the action (internal or external). Such modelling provides a 2x2 matrix with all four possible combinations of internal/external sources of action, and internal/external effects of actions. By subjecting data from solved arson cases to smallest space analysis (in effect, examining the relationship each variable has to every other variable) Canter and Fritzson (1998) and Fritzson et al. (2001) showed that particular sets of variables could occupy a region in the 2x2 matrix. Hence, four basic modes of functioning can be applied to firesetting behaviour:

- (1) *Adaptive mode* (external source of action, external locus of effect). Characterised by exploitation of the environment for instrumental gain; for example, destroying a target to conceal another crime
- (2) *Expressive mode* (internal source of action, external locus of effect). Responding to an internal psychological situation by influencing the external environment through firesetting; for example, the targeting of a specific area of emotional importance.
- (3) *Integrative mode* (internal source of action, internal locus of effect). Responding to an internal psychological situation by targeting the situation itself; for example, the setting of fire to draw attention to one's internal psychological situation.
- (4) *Conservative mode* (external source of action, internal locus of effect). Responding to an external event by targeting that same

event; for example, setting fire to an external source of frustration for personal revenge.

In this model, each mode of action is associated with a set of variables (rather than with individual variables), for example a set of variables associated with an adaptive mode of action may include close relationships between variables such as theft, force, more than one offender, vehicle fire and so on: this suggests arson committed to conceal another crime will be strongly associated with these variables, an argument that is both supported by the research findings (Fritzson et al., 2001; Almond et al., 2005) and makes intuitive sense. The model, initially limited to data from retrospective case reports, has more recently been tested with interview data from adult male prison inmates convicted of arson (Almond et al., 2005) with success. The model has distinct implications for both detection and treatment, as individuals who operate in distinct modes are likely to display broadly similar characteristics and may respond to carefully targeted treatment. In relation to women, there is high association with variables relating to psychological disturbance, suggesting that these disturbances are the primary drive and firesetting is an attempt to directly restore equilibrium. Although data from the current study has not been analysed in this way, our findings that women set fire for attention-seeking/parasuicide, and had higher levels of psychiatric illness would tend to support the theory. Clearly, it may prove useful to analyse data for a larger set of female arsonists in this manner in order to ascertain whether this finding is widely generalisable to female arsonists. Careful targeting of questioning about motives for firesetting may also refine the picture.

The current study tends to confirm previous findings in relation to gender differences amongst arsonists, though also confirms that simply establishing statistically significant gender differences makes classification or categorisation of arsonists problematical. The new paradigm thinking offered by Canter and Fritzson (1998) and Fritzson et al. (2001) allows for a more useful way of considering arson, and allows for multiple variables to underlie single actions.



## REFERENCES

- Almond L., Duggan L., Shine J. and Canter D. (2005) Test of the arson action system model in an incarcerated population. *Psychol. Crime Law* **11** (1), 1–15.
- American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders (4th ed.)* Washington DC, APA.
- Canter D. and Fritzon K. (1998) Differentiating arsonists: a model of firesetting actions and characteristics. *Leg. Crim. Psychol.* **3**, 73–96.
- Coid J., Wilkins J. and Coid B. (1999) Fire-setting, pyromania and self-mutilation in female remanded prisoners. *J. Forensic Psychiatr.* **10** (1), 119–30.
- Fritzon K., Canter D. and Wilton Z. (2001) The application of an action system model to destructive behaviour: the examples of arson and terrorism. *Behav. Sci. Law* **19**, 657–90.
- Lewis N.D.C. and Yarnell H. (1951) *Pathological Fire Setting (Pyromania): Nervous and Mental Disease Monograph Number 82*. New York, Coolidge Foundation.
- Lowenstein L.F. (2003) Recent research into arson (1992–2000). Incidence, causes and associated features, predictions, comparative studies, and prevention and treatment. *Psychiatr. Psychol. Law* **10** (1), 192–8.
- Noblett S. and Nelson B. (2001) A psychosocial approach to arson: a case controlled study of female offenders. *Med. Sci. Law* **41** (4), 325–30.
- Office of the Deputy Prime Minister (2003) *Arson Control Forum Annual Report*. London, Office of the Deputy Prime Minister.
- Puri B.K., Baxter R., and Cordess C.C. (1995) Characteristics of fire-setters. A study and proposed multi-axial psychiatric classification. *Brit. J. Psychiatr.* **166**, 393–6.
- Räsänen P., Hirvenoja R., Hakko H. and Väisänen E. (1994) Cognitive functioning ability of arsonists. *J. Forensic Psychiatr.* **5** (3), 615–20.
- Räsänen P., Hakko H., and Väisänen E. (1995) Arson trend increasing: a real challenge to psychiatry. *J. Forensic Sci.* **40** (6), 976–9.
- Rix K.J.B. (1994) A psychiatric study of adult arsonists. *Med. Sci. Law* **34** (1), 21–34.
- Saunders E.B. and Awad G.A. (1991) Adolescent female firesetters. *Can. J. Psychiatr.* **36**, 401–4.
- Scott D. (1978) The problems of malicious fire raising. *Brit. J. Hosp. Med.* **19** (3) 259–63.
- Stewart L.A. (1993) Profile of female firesetters: implications for treatment. *Brit. J. Psychiatr.* **163**, 248–56.
- Swinton M. and Ahmed A. (2001) Arsonists in maximum security: mental state at time of fire-setting and relationship between mental disorder and pattern of behaviour. *Med. Sci. Law* **41** (1), 51–7.
- Tennent T.G., McQuaid A., Loughnane T. and Hands A.J. (1971) Female arsonists. *Brit. J. Psychiatr.* **119**, 497–502.



## RESEARCH ARTICLE

### Recidivism and dangerousness in arsonists

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Psychiatric morbidity is high among arsonists compared to those guilty of other serious offences, and the courts are anyway inclined to refer those convicted of arson for psychiatric assessment. There is, however, very little research that informs the assessment of future arson risk and, sometimes, the concepts of recidivism and dangerousness appear to be treated interchangeably. The current study aimed to examine dangerousness in terms of both recidivism and offence severity. The case notes of  $N = 167$  adult arsonists referred for forensic psychiatric assessment over a 24-year period were examined for differences between (i) one-time only and multiple firesetters, and (ii) for characteristics of those who had set serious fires causing serious injury, loss of life or extensive damage. Findings largely support those in the literature with repeat arsonists being younger, single and having a number of attributes suggesting childhood disturbance. Personality disorder and previous time in prison were also associated with repeat firesetting. Recidivism was not associated with the setting of serious fires. Very few variables were able to predict whether subjects had set a serious fire although intentional behaviours such as multiple-point firesetting and the use of fuel and accelerants appear to indicate highly dangerous firesetting behaviour. These indicators differ from those previously reported by psychiatrists as most indicative of future dangerousness.

**Keywords:** firesetting; empirical study; forensic psychiatry; forensic mental health; risk assessment

### Introduction

Arson presents a serious problem for psychiatry. In England and Wales there were 39,318 cases in 2007–2008 (Home Office, 2008), and arson caused an annual financial cost in excess of £7.7 billion in the year 2003 (Office of

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the Deputy Prime Minister, 2005). Deliberately started fires caused on average two deaths a week in the UK between 1986 and 1996 (Home Office, 2007). While psychiatric morbidity is not the norm in those convicted of arson, it is common (Puri, Baxter, & Cordess, 1995; Rix, 1994). Furthermore, Prins (2005) notes that, to assist their determination of dangerousness, the courts are generally inclined to call for psychiatric reports in all but the most apparently straightforward cases. Psychotic illness and substance misuse are the most common Axis I diagnoses for arsonists referred for forensic psychiatric examination, and there are relatively high levels of learning disability compared to other violent offenders (Enayati, Grann, Lubbe & Fazel, 2008). Nearly 60 years after the first major empirical study of arsonists (Lewis & Yarnell, 1951), however, there remains a paucity of research that can inform the assessment of dangerousness in arsonists.

Brett (2004) attempted to answer the question 'How dangerous are firesetters?' by reviewing the literature on arson recidivism, concluding that they cannot be assumed to be inherently dangerous, in this context meaning that further arson offences are not inevitable. The current study further examines the characteristics of recidivist arsonists in the context of the current literature, and questions whether recidivism and dangerousness are interchangeable concepts. We introduce the concept of severity or seriousness in relation to dangerousness in arsonists, and test whether particular characteristics mark out those who set serious fires. Finally, markers of increased future dangerousness identified by psychiatrists in a previous study (Sugarman & Dickens, 2009) are tested.

### *Recidivism in arsonists*

Lewis and Yarnell (1951) studied 1345 (85% male) arsonists, reporting that 26% (28% male, 12% female) of firesetters had set more than one fire. Brett's review (2004) identifies recidivism rates ranging from 4% (Soothill & Pope, 1973) to 60% (Rice & Harris, 1991) across 24 studies that differ widely in their operational definition of recidivism, their methodology, setting and sample population. Recidivism is defined variously, for example, as the lighting of multiple fires (Lewis & Yarnell, 1951; Rice & Harris, 1991) or reconviction within a defined follow-up period (Virkkunen, Eggert, Rawlings, & Linnolia, 1996). Most studies are retrospective and based on case notes or criminal records, with only a rare longitudinal follow-up study (Soothill & Pope, 1973). Samples of arsonists are drawn from the criminal justice system (Barnett, Richter, & Renneberg, 1999), from general and psychiatric hospitals (e.g., Fleszar-Szumigajowa, 1969), and from forensic psychiatric settings. Five studies are from forensic psychiatric settings and only two of these use large samples (Repo, Virkkunen, Rawlings, & Linnolia, 1997; Rice & Harris, 1991). Since Brett's review, a third large



study (Lindberg, Holi, Tani, & Virkkunen, 2005) of recidivist arsonists drawn from a forensic psychiatric setting has also been published. Differences explored between recidivist and non-recidivist arsonists from the literature are covered extensively by Brett (2004) and are summarised in Table 1. These studies have not been assessed for methodological quality as Brett (2004) notes that most would be excluded. Not all identified variables have statistically significant differences reported and results from studies subsequent to the review are also included (Dickens et al., 2007a, 2007b; Lindberg et al., 2005). Given the small number of studies of the characteristics of recidivist arsonists who come to the attention of forensic psychiatric services further examination of this question in the context of previous research findings is warranted.

### ***Dangerousness in arsonists***

The question of arsonist dangerousness is, however, only partially addressed by Brett (2004) who conflates and treats interchangeably the concepts of dangerousness and recidivism. While clinical assessment of dangerousness – a concept reflecting concern about the probability of potential harm to others – remains an inexact science (Pagani & Pinard, 2001), its prediction relies on more than offence frequency alone. Sociodemographic and situational factors, mental health status, and substance misuse may all contribute (Pagani & Pinard, 2001); issues of offence severity and the balance between public protection and individual liberty are also of paramount concern (Bennet, 2008). We have previously argued (Sugarman & Dickens, 2009) that research into the dangerousness of arsonists and firesetters has tended to concentrate solely on the recidivism side of this equation ignoring offence severity. In that study (Sugarman & Dickens, 2009), we investigated the views of psychiatrists about the relationship of historical and diagnostic firesetting variables with future dangerous firesetting behaviour. We found that two items were consistently rated as indicating the highest future dangerousness: (i) a history of setting fire to an occupied building, and (ii) the apparent intention through firesetting to endanger life. Other items, including failure to extinguish a fire, failure to call fire services or previous firesetting causing extensive property damage, were consistently rated as indicating moderate dangerousness. A third cluster of factors containing clearly purposive behaviours – such as setting multiple point fires, or using fuel or accelerants – were rated midway between the above two groupings. One aim of the current study is to test these psychiatrist-rated indicators of future dangerousness empirically by asking whether those who display such characteristics are more likely to be recidivists and be responsible for more serious fires.

There is very little literature about severity or seriousness as an arson-related construct. As Brett (2004) notes, arson does not lend itself easily to empirical research and he postulates that this may be partly due to the



Table 1. Variables reported in the literature as differing between recidivist and non-recidivist firesetters.

	Study
<b>Sociodemographic factors</b>	
Gender	O'Sullivan & Kelleher (1987); Rix (1994); Dickens et al. (2007a)
Age	DeJong et al. (1992); Lindberg et al. (2005); Rice & Harris (1991)
Social class	O'Sullivan & Kelleher (1987)
Marital status	O'Sullivan & Kelleher (1987); Rice & Harris (1991)
<b>Family history/childhood factors</b>	
Unstable childhood	O'Sullivan & Kelleher (1987);
Family reported childhood fire interest*	Rice & Harris (1991)
Maternal alcoholism	DeJong et al. (1992)
Paternal violence and alcoholism	Virkkunen et al. (1996)
School adjustment	Rice & Harris (1991)
Childhood institutionalisation	Rice & Harris (1991)
Early home environment parental absence and presence of brothers*	Virkkunen et al. (1996)
Biochemical markers*	Linnolia et al. (1989); Virkkunen et al. (1999)
Enuresis	Repo et al. (1997)
<b>Firesetting behaviour/motives</b>	
Tension and excitement on firesetting	Rice & Harris (1991)
Meet DSM-IV criteria for pyromania	Repo et al. (1997)
Intoxication at firesetting	Lindberg et al. (2005); Repo et al. (1997)
Own home site	Repo et al. (1997)
Set fires to buildings	Repo et al. (1997)
Prior firesetting	Hurley & Monahan (1969); Koson & Dvoskin (1982); Sapsford et al. (1978)
<b>Psychiatric diagnosis</b>	
Psychiatric illness	Barnett et al. (1997, 1999); O'Sullivan & Kelleher (1991)
Personality disorder	DeJong et al. (1992); Fleszar-Szumigajowa (1969); Lindberg et al. (1995); Repo et al. (1997); Rice & Harris (1991); Joukamaa & Touvinen (1983); Rasanen et al. (1995)
Schizophrenia/psychosis	Lindberg et al. (1995)
Learning disability	Fleszar-Szumigajowa (1969); Dickens et al. (2007b)
Suicide attempts	Repo et al. (1997); Rice & Harris (1991)
Alcohol dependence	Koson & Dvoskin (1982); Repo et al. (1997)
Epilepsy*	Fleszar-Szumigajowa (1969)
Alcoholic/non-alcoholic schizophrenics*	Repo & Virkkunen (1997a)

(continued)



Table 1. (Continued).

	Study
<b>Other crime/aggression</b>	
Age at start of criminal career	Repo & Virkkunen (1997b)
Time in correctional facilities	Rice & Harris (1991)
Extent of criminal history	Rice & Harris (1991)
History of interpersonal violence reduced	Rice & Harris (1991)
Victimization of another part of offence*	Rice & Harris (1991)
Psychotic reason	Rice & Harris (1991)
Pure arsonists, diminished responsibility and set more fires	Barnett et al. (1997, 1999)
Pure arson in mental retardation and psychosis recidivism	Lindberg et al. (2005)

Note: \*Variable not in database for current study.

discontinuous link between the apparent intentions of the arsonist and the outcome of his crime, citing in support the 'firefighters adage' that 'a big fire is just a small fire that hasn't been controlled'. While a straightforward relationship between violence and potential harm is self-evident, fire seems to present more inherent unpredictability. In particular, there are numerous factors that remain unknown to and uncontrollable by the arsonist himself. For example, the absence of correctly operating smoke detectors, alarms or sprinklers, occupancy of a burning building by vulnerable groups or intoxicated persons (Marshall et al., 1998), the response time of fire services to emergency calls (Ignall, Rider, & Urbach, 1979), the presence in a burning building of material that releases toxic chlorinated hydrocarbons when combusted (Ruokojärvi, Aatimila & Ruuskanen, 2000), and the fuel load of the built environment (Committee on Fire Toxicology, 1986) could all increase risk of loss of life independently from the apparent intention of the firesetter.

### *The concept of severity applied to firesetting*

A literature search using the terms 'severity', 'seriousness', 'risk assessment' or 'dangerousness' together with 'arson', 'firesetting' and related synonyms was conducted. A far greater body of work exists for firesetting among children and adolescents than for arson among adults. It has been argued that age matters less in arson than in any other serious crime precisely because the potential for harm is the same for adults and children (Jackson, Hope, & Glass, 1987). For example, violent and aggressive behaviour in children can be managed more easily precisely because they are children, whereas firesetting behaviour depends far less on the physical attributes of



the offender. A comprehensive analysis of the concept of arson severity is beyond the scope of the current study. However, multiple definitions or indicators of dangerousness are employed in the literature including recidivism, quantifiable harm and damage, and intentionality and firesetting behaviour. These are briefly outlined below in order to inform and justify the operational definition of severity used in the current study.

First, recidivism or repetition has already been identified as one indicator of dangerousness (Brett, 2004). However, as noted, several definitions of recidivism are used in the literature including the setting of multiple fires (Rice & Harris, 1991) and reconviction for arson (Soothill & Pope, 1973), and both of these have weaknesses. Conviction rates for arson are very low, with only 9% of arson fires in England and Wales resulting in a suspect being charged or cautioned (Department for Communities and Local Government, 2006), and data using this definition of recidivism must therefore be assumed to be incomplete. Definitions of dangerousness based solely on numbers of fires inevitably lose information about the severity of the fires.

A second commonly occurring definition redresses the problem of fire seriousness by attempting to quantify severity in terms of the damage caused through firesetting. This damage may be in terms of human costs: injuries and burns sustained, or deaths caused (e.g., Cassuto & Tarnow, 2003). Quantifiable negative outcomes can also include increased load on emergency hospital services, and damage caused to property in financial (Doley, 2003; Jacobson, 1985) or structural terms (Adler, Nunn, Northam, Lebnan, & Ross, 1994; Slavkin, 2004). Potential endangerment of life (Jacobson, 1985) could also be included under the broad heading of defining arson severity by harm caused. Arson is only briefly addressed in commonly used violence risk assessment measures, for example, contributing to the Cormier–Lang criminal history score for non-violent offences as part of the Violence Risk Appraisal Guide (Quinsey, Harris, Rice, & Cormier, 1998). Weightings of 1 and 5 on the scale for, respectively, arson and firesetting (garbage can) and arson and firesetting (church, house, barn) appears to indicate a definition of severity using the quantifiable damage or potential damage model.

A third indicator of the severity of firesetting behaviour appears to define fire seriousness as a function of the motivations or intentions of the firesetter. For example, is the fire planned and destructive, indicating more severity, or was it set from curiosity, indicating less severity (Adler et al., 1994), was the fire set for ‘mischief and excitement’ (less serious) or for revenge (more serious) (Stewart & Culver, 1982). The characteristics of the firesetting behaviour itself are sometimes used as an additional indicator of seriousness. For example ‘match and lighter play’ is perhaps a less serious behaviour (Cox-Jones, Lubetsky, Fultz, & Kolko, 1990), while setting fires alone as opposed to in a group, and setting fires as part of another crime as opposed to firesetting as a pure criminal activity, are more indicative of serious arson (Arson Prevention Bureau, 1998). In the only study of severe



and non-severe firesetters Sakheim and Osborn (1999) report on 180 juvenile firestters and use a combination of motive and intention to contribute to the allocation subjects to severe ('malicious or destructive intent') or non-severe ('accidental', 'playing with matches or lighters', 'curiosity', 'to gain parental attention') groups.

Other firesetting behaviours described as indicating higher seriousness include versatility in terms of numbers of ignition sources and fire targets used (MacKay et al., 2006). Geller and Bertsch (1985) present firesetting as a continuum of behaviour from behaviours that do not involve actually setting fires, for example, carelessness with cigarette butts, through to intentional and destructive firesetting. For the purposes of the current study, we decided to define fire severity in the most objective terms available, that is using the harm/potential harm model, though we also present data for recidivism using the same definition as Rice and Harris (1991), the setting of multiple fires, thus allowing for comparison between samples.

## **Aims**

The aims of the current study are to further study the characteristics, based on identified differences found in previous research on arson recidivism, of a large sample of firesetters who come into contact with forensic psychiatric services, and in particular to examine the relationship between recidivism and fire severity. A second aim is to empirically test previous findings about psychiatrists' ratings of arsonists' future dangerousness. These aims suggest a number of specific hypotheses:

- (1) Recidivist arsonists referred for psychiatric assessment will differ from non-recidivists across a range of discriminating variables previously identified in the literature.
- (2) Those who have a history of having set a major or serious fire will differ on similar variables from those who have only set a less serious fire or fires. A history of having set at least one severe fire will be related to recidivism.
- (3) Variables rated by psychiatrists in a previous study as indicating highest future dangerousness will be associated with the setting of serious or multiple fires.

## **Methods**

### ***Procedure and measurement***

Over a 24-year period, 450 cases of arson were referred to the West Midlands Regional Forensic Psychiatry Service. Patients were recorded in a card index by offence, arson representing just over 10% of cases. Forty-six records were absent due to loss, non-attendance, or refusal to be



interviewed, and therefore details of clinical assessment were available for 404 people. A random sample of 50% of the population ( $N = 202$ ) was selected for data extraction. The current study focuses on those aged over 18 at the time of psychiatric assessment ( $N = 167$ ).

Variables of interest to the researchers were generated from an examination of the psychiatric and psychological literature on arson and from a sample of case notes. An on-screen data collection sheet was designed with guidance notes and help screens to facilitate inter-rater reliability. A group of qualified psychiatric practitioners was trained in its use (FA, SE, ST, KH), and supervised in data collection (PS). The database covers a wide range of issues including recorded criminal convictions supplied by the Home Office. For the purposes of the current study, and to avoid type 1 errors due to testing a large number of variables, items for analysis were selected on the basis of their having been previously indicated in the literature as discriminating between recidivist and non-recidivist arsonists (see Table 1). Due to limitations in the data set there were a small number of variables identified in the literature that could not be analysed including epilepsy, family reports of childhood fire interest, parental absence in early home environment, and presence of brothers in childhood. For a small number of variables we selected the closest match within our data set to those reported in the literature, for example, parental alcoholism for maternal/paternal alcoholism.

Each subject was categorised as either a first-time firesetter (one fire only) or multiple firesetter (two or more fires) based on the number of fires recorded in the notes, including the index referral. Each subject was categorised as a severe firesetter by raters if there was evidence that any fire they had been involved in had caused serious injury or loss of life or if it had resulted in extensive damage to property.

### **Data analysis**

Data were entered into SPSS 16.0.1 for analysis (SPSS, 2007). Independent comparisons were carried out between first-time and multiple firesetters and between serious and non-serious firesetters on categorical variables utilising Pearson's chi-square and, where expected cell frequency was low, Fisher's exact test. Continuous variables (age at assessment, age at first conviction, years in prison) were tested using independent samples *t*-tests. Odds ratios (OR) with 95% confidence intervals were calculated. Discriminant function analysis (stepwise method) was performed to identify variables able to predict (i) classification of subjects into first-time and multiple firesetting groups and (ii) classification of subjects into serious and non-serious firesetting groups. For the purposes of the discriminant function analysis, continuous variables (age at assessment, age at first conviction, and years in prison) were collapsed into dichotomous variables based on the median point within the data range.



## Results

A total of 167 arsonists referred for psychiatric assessment were studied. Mean age at assessment was 29.4 years (range 18–77 years,  $SD = 11.3$  years); 129 (77%) were males and 38 (23%) females. Records of 81/167 (49%) indicated a history of repeat firesetting, while 60/167 (36%) were rated as having set any fire that had caused serious injury or loss of life or had resulted in extensive damage to property.

### *Characteristics of recidivist arsonists*

All variables, with the exception of spate firesetting and meeting DSM-IV criteria for pyromania, were entered into a discriminant function analysis (stepwise method). This yielded an equation comprising single status, childhood enuresis, and two or more years in prison, and permitted better than chance classification for 67.1% of cases (Wilks' Lambda = 0.82,  $\chi^2 = 31.55$ ,  $df = 4$ ,  $p < 0.001$ ). Inclusion of spate firesetting and DSM-IV status, where multiple firesetting is, of course, part of the variable definition, allowed correct classification for 77.8% of cases (Wilks' Lambda = 0.65,  $\chi^2 = 71.12$ ,  $df = 6$ ,  $p < .001$ ). Table 2 shows differences between repeat and non-repeat firesetter groups. Subjects categorised as repeat firesetters were more likely to be younger and to be single, to have a family history of violence or substance misuse, and to have had school adjustment issues measured by attendance at a special school. On the whole, people with any diagnosed psychiatric illness were under-represented in the repeat firesetters group, as were the sub-group of subjects with psychotic illness. Subjects with personality disorder were more likely to be members of the multiple fires group. Relationship difficulties were common across all subjects, though were more prevalent in the recidivist group. Multiple firesetters started their criminal career earlier as measured by age at first conviction, had spent more time in prison and had more convictions for property crime. Feelings of tension and excitement around the index offence were not common, though were far more frequent in the repeat firesetters group. There was no significant difference between recidivist and non-recidivist groups in terms of the proportions who were rated as having set a serious fire. A number of variables reported in the literature as potentially characteristic of recidivist firesetters, including gender and social class were not found to be associated with multiple firesetting (see Table 2).

### *Characteristics of serious and non-serious firesetters*

Very few differences between serious and non-serious firesetters were identified (see Table 3). Those with a history of setting serious fires had spent more years in prison, and tension and excitement was more likely to be



Table 2. Characteristics of first time versus multiple firesetters at psychiatric assessment ( $N = 167$ ).

	More than one fire in case notes				
	% yes $n = 81$	% no $n = 86$	$\chi^2$	$p$	OR (95% CI)
<b><i>Sociodemographic factors</i></b>					
Male gender	82	73	1.61	0.21	1.61 (0.77–3.36)
Mean ( $SD$ ) age at assessment	27.1 (10.4)	31.7 (11.7)		<0.01	<sup>a</sup>
Social class (professional)	37	41	0.24	0.63	0.86 (0.46–1.60)
Single status	65	45	6.80	<0.01	2.28 (1.22–4.26)
<b><i>Childhood and family background</i></b>					
Disturbed childhood (any abuse or neglect)	30	23	0.87	0.35	1.39 (0.70–2.77)
Special school	26	16	2.34	0.13	1.80 (0.84–3.84)
Poor student (School adjustment)	69	48	7.89	<0.01	2.46 (1.31–4.63)
Enuresis	16	5	5.93	<0.05	3.92 (1.22–12.58)
Family history of violence	28	11	8.66	<0.01	3.39 (1.46–7.88)
Family history of substance misuse	17	8	3.17	0.08	2.36 (0.90–6.18)
Any family history	56	38	4.95	<0.05	2.01 (1.08–3.72)
<b><i>Psychiatric morbidity/adult factors</i></b>					
Any psychiatric illness	22	35	3.27	0.07	0.53 (0.27–1.06)
Personality disorder	20	9	3.70	0.05	2.40 (0.97–5.96)
Psychosis	7	19	4.57	<0.05	0.35 (0.13–0.95)
Learning disability	14	5	4.07	<0.05	3.22 (0.98–10.57)
Self-harm ever	35	27	1.20	0.27	1.45 (0.75–2.80)
Alcohol problem	63	54	1.54	0.22	1.48 (0.80–2.75)
Relationship difficulties	78	64	3.85	0.05	1.97 (1.00–3.91)
<b><i>Other crime</i></b>					
Mean ( $SD$ ) age first conviction	20.5 (8.7)	27.1 (13.0)		<0.001	<sup>a</sup>
Property crime	80	62	6.98	<0.01	2.53 (1.26–45.09)

(continued)



Table 2. (Continued).

	More than one fire in case notes				
	% yes <i>n</i> = 81	% no <i>n</i> = 86	$\chi^2$	<i>p</i>	OR (95% CI)
Violent/sex crime	44	41	0.24	0.62	1.17 (0.63–2.15)
Minor aggression	58	50	1.08	0.30	1.38 (0.75–2.55)
Mean ( <i>SD</i> ) years in prison	4.2 (5.6)	2.0 (4.0)		<0.01	<sup>a</sup>
<b><i>Firesetting history and motives</i></b>					
Psychotic motive	6	9	0.57	0.45	0.64 (0.20–2.05)
Tension/excitement	9	1	5.12	<0.05	8.04 (0.97–66.88)
DSM IV Pyromania	5	0	§	0.05	1.05 (1.00–1.11)
Intoxicated at any fire	53	43	1.69	0.19	1.50 (0.81–2.76)
Any building fire	93	94	0.17	0.68	0.77 (0.23–2.63)
Home (domestic site)	61	77	5.14	<0.05	0.46 (0.24–0.91)
Occupied building fire	63	64	0.02	0.89	0.96 (0.51–1.80)
Serious fire	40	33	0.88	0.35	1.35 (0.72–2.55)
Intention to endanger life	14	13	0.02	0.88	1.07 (0.44–2.63)
Spate firesetting	27	0	26.90	<0.001	0.41 (0.33–0.50)
Multi point fire	36	31	0.36	0.55	1.22 (0.64–2.32)
Use of fuel/accelerants	47	43	0.26	0.61	1.17 (0.64–2.16)
Premeditation	32	26	0.87	0.35	1.38 (0.70–2.69)
Failure to raise alarm	73	77	0.34	0.56	0.81 (0.40–1.64)
No attempt to extinguish fire	84	97	7.60	<0.01	5.29 (1.45–19.32)

Note: § Fisher's exact test <sup>a</sup>*t*-test.



Table 3. Characteristics of serious versus non-serious firesetters at psychiatric assessment ( $N=167$ ).

	Serious fire in case notes				
	% yes $n = 60$	% no $n = 107$	$\chi^2$	$p$	OR (95% CI)
<b><i>Sociodemographic factors</i></b>					
Male gender	82	75	1.04	0.31	1.50 (0.69–3.30)
Mean ( $SD$ ) age at assessment	28.8 (10.5)	29.8 (11.7)		0.59	<sup>a</sup>
Social class (professional)	47	35	2.36	0.12	1.66 (0.87–3.16)
Single status	58	53	0.40	0.53	1.23 (0.65–2.33)
<b><i>Childhood and family background</i></b>					
Disturbed childhood (any abuse or neglect)	27	26	0.01	0.94	1.03 (0.50–2.10)
Special school	27	18	1.84	0.18	1.68 (0.79–3.59)
Poor student (School adjustment)	60	57	0.14	0.71	1.13 (0.60–2.15)
Enuresis	7	12	1.26	0.26	0.52 (0.16–1.66)
Family history of violence	20	19	0.04	0.84	1.09 (1.49–5.42)
Family history of substance misuse	18	9	2.83	0.09	2.18 (0.87–5.48)
Any family history	48	46	0.10	0.75	1.11 (1.59–2.09)
<b><i>Psychiatric morbidity/adult factors</i></b>					
Any psychiatric illness	20	34	3.50	0.06	0.49 (0.23–1.04)
Personality disorder	17	13	0.40	0.53	1.33 (0.55–3.21)
Psychosis	8	16	1.92	0.17	0.48 (0.17–1.38)
Learning disability	8	9	0.05	0.83	0.88 (0.29–2.71)
Self-harm ever	32	30	0.06	0.81	1.09 (0.55–2.15)
Alcohol problem	63	55	1.06	0.30	1.41 (0.74–2.69)
Relationship difficulties	72	70	0.05	0.83	1.08 (0.54–2.17)
<b><i>Other crime</i></b>					
Mean ( $SD$ ) age first conviction	22.6 (11.4)	24.6 (11.6)		0.27	<sup>a</sup>
Property crime	73	69	0.32	0.57	1.23 (0.61–2.48)

(continued)



Table 3. (Continued).

	Serious fire in case notes				
	% yes <i>n</i> = 60	% no <i>n</i> = 107	$\chi^2$	<i>p</i>	OR (95% CI)
Violent/sex crime	37	46	1.31	0.25	0.69 (0.36–1.31)
Minor aggression	53	54	0.01	0.91	0.97 (0.51–1.82)
Mean ( <i>SD</i> ) years in prison	5.0 (6.0)	2.0 (3.9)		<0.001	<sup>a</sup>
<b><i>Firesetting history and motives</i></b>					
Psychotic motive	7	8	§	0.77	0.78 (0.23–2.64)
Tension/excitement	10	2	§	<0.05	5.83 (1.14–29.88)
DSM IV Pyromania	3	2	§	0.62	1.81 (0.25–13.19)
Intoxicated at any fire	55	44	1.89	0.17	1.56 (0.83–2.95)
Any building fire	92	94	§	0.53	0.65 (0.19–2.24)
Home (domestic site)	65	71	0.65	0.42	0.76 (0.39–1.49)
Occupied building fire	60	65	0.49	0.49	0.79 (0.41–1.52)
More than 1 fire	53	46	0.88	0.35	1.35 (0.72–2.55)
Intention to endanger life	15	12	0.27	0.60	1.28 (0.51–3.19)
Spate firesetting	8	16	1.92	0.17	0.48 (0.17–1.38)
Multi point fire	45	27	5.53	<0.05	2.20 (1.13–4.27)
Use of fuel/accelarants	55	39	3.85	0.05	1.89 (1.00–3.59)
Premeditation	35	25	1.79	0.18	1.60 (0.80–3.17)
Failed to raise alarm	72	77	0.50	0.48	1.30 (0.63–2.70)
No attempt to extinguish fire	92	90	0.17	0.68	0.80 (0.26–2.40)

Note: § Fisher's exact test <sup>a</sup>*t*-test.



apparent during firesetting behaviour. Discriminant function analysis identified that the variables violent/sex offences, two or more years in prison, and multiple-point fire were able to correctly classify subjects at better than chance levels in 64.7% of cases (Wilks' Lambda = 0.86,  $\chi^2 = 23.83$ ,  $df = 3$ ,  $p < .001$ ).

### *Psychiatrists' ratings of future dangerousness*

In a previous study, we reported that psychiatrists appeared to view occupied building fires and fires where there is an apparent intention to endanger life as being most indicative of future dangerousness. Neither recidivist nor serious firesetters differed from their counterparts on either of these measures. Subjects who were judged to have set a serious fire were significantly more likely to have set a multi-point fire and to have used fuel or other accelerants during the course of their arson (see Table 3).

## **Discussion**

From retrospective analysis of case notes of 167 adult arsonists referred for psychiatric assessment, very nearly half (81/167, 49%) were found to have set fires on more than one occasion, and 36% (60/167) to have set fires that had caused serious injury or loss of life or if it had resulted in extensive damage to property.

Findings for recidivist arsonists, defined as subjects who had set more than one fire based on evidence from case notes, largely support previous reports. Recidivist arsonists were younger, single and started their criminal careers earlier, and this replicates findings from studies of recidivism in groups referred for psychiatric examination (Lindberg et al., 2005; Repo et al., 1997; Rice & Harris 1991). School adjustment factors (Rice & Harris, 1991) and enuresis (Repo et al., 1997) were also found to be associated with recidivism in the current study. Learning disability (Lindberg et al., 2005) and personality disorder (Lindberg et al., 2005; Repo et al., 1997; Rice & Harris, 1991) was also more common among multiple firesetters in the current sample and psychosis more common in first-time firesetters (Repo et al., 1997). Recidivists had spent longer in prison and had more extensive history of other property crime, and this verifies findings from Rice and Harris (1991). We also found that, while rare, feelings of tension and excitement alongside firesetting behaviour were more common in the recidivist group, a finding also reported in the literature (Rice & Harris, 1991).

Not all previously reported characteristics of recidivist firesetters were replicated in the current study. Gender has been identified as a possible factor by O'Sullivan and Kelleher (1987) and Rix (1994), though the first report is based on a very limited number (6) of persistent firesetters and the



latter, though reporting on a large sample, does not state statistical significance. The anecdotal nature of O'Sullivan and Kelleher's (1987) report may also explain the lack of significant findings for social class and disturbed childhood variables. The current study used 'self-harm' as a substitute variable for 'suicide attempts', identified as a characteristic of recidivist firesetters by both Repo et al. (1997) and Rice and Harris (1991), and this may explain our failure to find an association between the two. Previous findings should not be discounted on the basis of the current study.

One particularly interesting finding was the lack of any relationship between recidivism and the setting of major fires that caused injury, loss of life or extensive damage. We consider that it may be a mistake to conflate recidivism and dangerousness; our data suggest that a repeat firesetter is not necessarily one who causes the most harm, and the assumption that the concepts of recidivism and dangerousness among firesetters are interchangeable should be challenged. Some people might reasonably be conceptualised as being prone to starting highly dangerous or less dangerous fires, however, the current study was unable to show this using variables previously demonstrated as important in characterising recidivist firesetters. Further work needs to be done to examine this hypothesis. Psychiatrists should note the important relationship between fire severity and the setting of multi-point fires and spate firesetting, with both of these apparently more related to serious fires than two items, intention to endanger life and setting fire to an occupied building, rated by psychiatrists as most dangerous in a previous study (Sugarman & Dickens, 2009).

Considerable attention has recently been paid to the development of a classification system for arsonists based on an action system model (Almond, Duggan, Shine, & Canter, 2005; Canter & Fritzon, 1998; Fritzon, Canter, & Wilton, 2001; Häkkänen, Puolakka, & Santtila, 2004), which develops the field by providing a framework to differentiate between arsonists and therefore potentially inform treatment interventions. Based on a series of 65 variables arsonists are classified along two axes, providing four possible categories based on the expressiveness or instrumentality of arson and on the orientation of the firesetting towards objects or people. The variable 'prior arson conviction' falls into the expressive object-oriented category, describing arson where targets (objects not people) are selected because of emotional significance (expressive not instrumental). If we assume that those who target people are inherently more dangerous than those who target objects then again repeat firesetters, with object-oriented firesetting behaviour, are not necessarily most dangerous in terms of harm potential.

The current study comprises a retrospective review of case notes and criminal records and, despite the larger than average sample size for a study of its type, there are a number of limitations. As the sample was drawn from a population of offenders referred for psychiatric assessment, it is unlikely to



be representative of all arsonists. The relatively unsystematic nature of data generation does mean that results are dependent on the quality of clinical notes, and therefore the results should be approached with some caution. In particular, rating of fire severity, though undertaken by qualified psychiatrists, is based on the available data and this may have been incomplete. We cannot present figures to demonstrate inter-rater reliability on the rating of notes and this is also a limitation. We used a definition of recidivism based on evidence of repeat firesetting in the clinical and criminal record, where other studies use reconviction or other measures from clinical records. However, we felt evidence of multiple fires was likely to be the most sensitive measure available given the very low detection and conviction rates for arson crimes (Department for Communities and Local Government, 2006). In any event, we plan to follow up reconviction of offenders in the current study and will report on this in due course. Further differences between repeat and non-repeat and between setters of serious and less serious fires may exist but we limited the number of variables tested in order to minimise the risk of type 1 error. A previous study of repeat firesetting (Rice & Harris, 1991) only reports on statistically significant findings while we present all our analyses whether significant or not.

In a study by Geller, Fisher, and Bertsch (1992), the authors report that hospital patients without a history of firesetting behaviour were no less likely to engage in firesetting behaviours during the period of the study, though they did actually set fewer fires. The current study appears to provide further evidence that it is very difficult to predict who will set serious fires in future, though we present some evidence that purposive firesetting behaviours including multi-point fires and fuel or accelerant use indicate particular dangerousness. The prediction of recidivism itself is important and we present findings that will hopefully further allow targeting of resources for intervention and treatment.

## References

- Adler, R., Nunn, R., Northam, E., Lebnan, V., & Ross, R. (1994). Secondary prevention of childhood firesetting. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33(8), 1194–1202.
- Almond, L., Duggan, L., Shine, J., & Canter, D. (2005). Test of the arson action system model in an incarcerated population. *Psychology Crime & Law*, 11(1), 1–15.
- Arson Prevention Bureau. (1998). *Accommodating arsonists in the community: Guidance for hostel managers*. London: Arson Prevention Bureau.
- Barnett, W., Richter, P., & Renneberg, B. (1999). Repeated arson: Data from criminal records. *Forensic Science International*, 101, 49–54.
- Barnett, W., Richter, P., Sigmund, D., & Spitzer, M. (1997). Recidivism and concomitant criminality in pathological firesetters. *Journal of Forensic Sciences*, 42(5), 879–883.
- Bennet, J. (2008). *The social costs of dangerousness: Prison and the dangerous classes*. London: Centre for Crime and Justice Studies, Kings College London.



- Brett, A. (2004). 'Kindling theory' in arson: How dangerous are firesetters? *Australian and New Zealand Journal of Psychiatry*, 38, 419-425.
- Canter, D., & Fritzon, K. (1998). Differentiating arsonists: A model of firesetting actions and characteristics. *Legal and Criminological Psychology*, 3, 73-96.
- Cassuto, J., & Tarnow, P. (2003). The discotheque fire in Gothenburg 1998. A tragedy among teenagers. *Burns*, 29(5), 405-416.
- Committee on Fire Toxicology. (1986). *Fire and smoke: Understanding the hazards*. Washington, DC: National Academy Press. Retrieved December 19, 2008, from [http://www.nap.edu/openbook.php?record\\_id=1916](http://www.nap.edu/openbook.php?record_id=1916)
- Cox-Jones, C., Lubetsky, M.J., Fultz, S., & Kolko, D. (1990). Inpatient psychiatric treatment of a young recidivist firesetter. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29(6), 936-941.
- DeJong, J., Virkkunen, M., & Linnolia, M. (1992). Factors associated with recidivism in a criminal population. *Journal of Nervous and Mental Disease*, 180, 543-550.
- Department for Communities and Local Government. (2006). *Arson control forum: Annual report 2006*. Wetherby: DCLG Publications. Retrieved December 22, 2008, from <http://www.communities.gov.uk/documents/fire/pdf/154145.pdf>
- Dickens, G., Sugarman, P., Ahmad, F., Edgar, S., Hofberg, K., & Tewari, S. (2007a). Gender differences amongst adult arsonists at psychiatric assessment. *Medicine Science and Law*, 47(3), 233-238.
- Dickens, G., Sugarman, P., Ahmad, F., Edgar, S., Hofberg, K., & Tewari, S. (2007b). Characteristics of lower IQ arsonists at psychiatric assessment. *Medicine Science & Law*, 48(3), 217-220.
- Doley, R. (2003). Pyromania fact or Fiction? *British Journal of Criminology*, 43, 797-807.
- Enayati, J., Grann, M., Lubbe, S., & Fazel, S. (2008). Psychiatric morbidity in arsonists referred for forensic psychiatric assessment in Sweden. *Journal of Forensic Psychiatry and Psychology*, 19(2), 139-147.
- Fleszar-Szumigajowa, J. (1969). The perpetrators of arson in forensic-psychiatric material. *Polish Medical Journal*, 3, 212-219.
- Fritzon, K., Canter, D., & Wilton, Z. (2001). The application of an action system model to destructive behaviour: the examples of arson and terrorism. *Behavioural Science & Law*, 19, 657-690.
- Geller, J., & Bertsch, G. (1985). Fire-setting behaviour in the histories of a state hospital population. *American Journal of Psychiatry*, 142(4), 464-468.
- Geller, J.L., Fisher, W.H., & Bertsch, G. (1992). Who repeats? A follow-up study of state hospital patients' firesetting behaviour. *Psychiatric Quarterly*, 63, 143-157.
- Häkkinen, H., Puolakka, P., & Santtila, P. (2004). Crime scene actions and offender characteristics in arsons. *Legal and Criminological Psychology*, 9, 1-18.
- Home Office. (2007). *Safer communities: Towards effective arson control*. London: Home Office. Retrieved December 22, 2008, from <http://www.communities.gov.uk/documents/fire/pdf/381237.pdf>
- Home Office. (2008). *Findings from the British Crime Survey and police recorded crime*. Retrieved December 19, 2008, from <http://www.homeoffice.gov.uk/rds/pdfs08/hosb0708.pdf>
- Hurley, W., & Monahan, T.M. (1969). Arson: The criminal and the crime. *British Journal of Criminology*, 9, 4-21.
- Ignall, E., Rider, K., & Urbach, R. (1979). Fire severity and response distance: Initial findings. *Journal of Fire Technology*, 15(4), 245-261.
- Jackson, H.F., Hope, S., & Glass, C. (1987). Why are arsonists not violent offenders? *International Journal of Offender Therapy and Comparative Criminology*, 31(2), 143-151.



- Jacobson, R. (1985). The subclassification of child firesetters. *Journal of Child Psychology and Psychiatry*, 26(5), 769–775.
- Joukamaa, M., & Touvinen, M. (1983). Finnish arsonists. *Journal of Forensic Sciences*, 23, 172–173.
- Koson, D.F., & Dvoskin, J. (1982). Arson: A diagnostic study. *Bulletin of the American Academy of Psychiatry and Law*, 10, 39–49.
- Lewis, N.D.C., & Yarnell, H. (1951). *Pathological fire setting (pyromania): Nervous and mental disease monograph number 82*. New York: Coolidge Foundation.
- Lindberg, N., Holli, M.M., Tani, P., & Virkkunen, M. (2005). Looking for pyromania: Characteristics of a consecutive sample of Finnish male criminals with histories of recidivist fire-setting between 1973 and 1993. *BMC Psychiatry*, 5(47). doi: 10.1186/1471-244X/5/47.
- Linnolia, M., DeJong, J., & Virkkunen, M. (1989). Monoamines, glucose metabolism, and impulse control. *Psychopharmacology Bulletin*, 25, 404–406.
- Mackay, S., Henderson, J., Del Bove, G., Marton, P., Warling, D., & Root, C. (2006). Fire interest and antisociality as risk factors in the severity and persistence of juvenile firesetting. *Journal of the American Academy of Child and Adolescent Psychiatry*, 45(9), 1077–1084.
- Marshall, S.W., Runyan, C., Bangdiwala, S., Linzer, M., Sacks, J., & Butts, J. (1998). Fatal residential fires. Who dies and who survives? *Journal of the American Medical Association*, 279, 1633–1637.
- Office of the Deputy Prime Minister. (2005). *The economic cost of fire: Estimates for 2003*. London: Office of the Deputy Prime Minister.
- O'Sullivan, G.H., & Kelleher, M.J. (1987). A study of firesetters in the south-west of Ireland. *British Journal of Psychiatry*, 151, 818–823.
- Pagani, G-F., & Pinard, L. (2001). Clinical assessment of dangerousness: An Overview. In G-F. Pagani & L. Pinard (Eds.), *Clinical assessment of dangerousness: Empirical contributions*. Cambridge: Cambridge University Press.
- Prins, H.A. (2005). *Offenders, deviants or patients?* (3rd ed.). London & New York: Routledge.
- Puri, B.K., Baxter, R., & Cordess, C.C. (1995). Characteristics of firesetters: A study and proposed multiaxial psychiatric classification. *British Journal of Psychiatry*, 166(3), 393–396.
- Quinsey, V.L.E., Harris, G.T., Rice, M.E., & Cormier, C.A. (1998). *Violent Offenders: Appraising and Managing Risk* (1st ed.). Washington: American Psychological Association.
- Rasanen, P., Hakko, H., & Vaisanen, E. (1995). The mental state of arsonists as determined by forensic psychiatric examinations. *Bulletin of the American Academy of Psychiatry and the Law*, 23, 547–553.
- Repo, E., & Virkkunen, M. (1997a). Criminal recidivism and family histories of schizophrenic and non-schizophrenic firesetters: Comorbid alcohol dependence in schizophrenic firesetters. *Journal of the American Academy of Psychiatry and Law*, 25, 207–215.
- Repo, E., & Virkkunen, M. (1997b). Young arsonists: History of conduct disorder, psychiatric diagnoses and criminal recidivism. *Journal of Forensic Psychiatry*, 8, 311–320.
- Repo, E., Virkkunen, M., Rawlings, R., & Linnolia, M. (1997). Criminal and psychiatric histories of Finnish arsonists. *Acta Psychiatrica Scandinavica*, 95, 318–323.
- Rice, M.E., & Harris, G.T. (1991). Firesetters admitted to a maximum security psychiatric institution: Offenders and offenses. *Journal of Interpersonal Violence*, 6, 461–475.



- Rix, K.J.B. (1994). A psychiatric study of adult arsonists. *Medicine Science & Law*, 34, 21–34.
- Ruokojärvi, P., Aatamila, M., & Ruuskanen, R. (2000). Toxic chlorinated and polyaromatic hydrocarbons in simulated house fires. *Chemosphere*, 41(6), 825–828.
- Sakheim, G.A., & Osborn, E. (1999). Severe versus nonsevere firesetters revisited. *Child Welfare*, 78(4), 411–434.
- Sapsford, R.J., Banks, C., & Smith, D.D. (1978). Arsonists in prison. *Medicine Science and Law*, 18, 247–254.
- Slavkin, M.L. (2004). Characteristics of juvenile firesetting across childhood and adolescence. *The Forensic Examiner*, 13(4), 6–18.
- Soothill, K.J., & Pope, P.J. (1973). Arson: A twenty year cohort study. *Medicine Science and Law*, 13, 127–138.
- SPSS for Windows Release 16.0.1 (2007). Chicago: SPSS.
- Stewart, M.A., & Culver, K.W. (1982). Children who set fires: The clinical picture and a follow up. *British Journal of Psychiatry*, 140, 357–363.
- Sugarman, P., & Dickens, G. (2009). Dangerousness in arsonists: A survey of psychiatrists' views. *Psychiatric Bulletin*, 33, 99–101.
- Virkkunen, M., Eggert, M., Rawlings, R., & Linnolia, M. (1996). A prospective follow-up study of alcoholic violent offenders and fire setters. *Archives of General Psychiatry*, 53, 523–529.



# Smoking and mental health nurses: a survey of clinical staff in a psychiatric hospital

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## Smoking and mental health nurses: a survey of clinical staff in a psychiatric hospital

There is a lack of evidence on the prevalence of smoking among mental health nurses, and the beliefs and attitudes they hold about smoking at work. This paper describes results from a cross-sectional survey of clinical staff working in a UK specialist charitable-status psychiatric hospital and focuses on the responses of registered mental health nurses. Questionnaires specifically developed for this study were sent to all 1371 clinical employees. Completed questionnaires were returned by 167 of 429 (38.9%) registered nurses (RNs), 300 of 842 (35.6%) nursing assistants (NAs), and 123 of 200 (61.5%) other health professionals (OHPs). Twenty-nine (17.4%) RNs, 93 (31%) NAs and eight (6.5%) OHPs reported themselves as current smokers. Differences in response to attitudinal questions between groups could not be attributed to age. RN smokers were significantly more likely than RN non-smokers to state that staff should be allowed to smoke with patients, and to report therapeutic value for patients in this activity. RN smokers were less likely than RN non-smokers to report that patients should be encouraged to stop smoking. RNs were significantly more likely than OHPs to report therapeutic value for patients in smoking with staff, even after controlling for the possible confounding effect of smoking status. Implications of the survey are discussed in the context of the international literature, including the disproportionately high smoking prevalence among patients living in psychiatric institutions and current guidelines to move towards no 'smoking allowed' areas for staff working in them.

**Keywords:** attitudes, mental health nurses, psychiatric nurses, smoking

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## Introduction

Smoking and disease-related exposure to environmental tobacco smoke has, of late, become more prominent on the public health agenda. For example, the government has moved to ban tobacco sponsorship of sporting events (Department of Health 2002) and European directives have led to an extension of the size and content of warnings on tobacco products (Batty 2002). In the medical community,

the British Medical Association (2002) has called for a ban on smoking in public places, including workplaces. In addition, the medical journal *Lancet* has called for an outright ban on smoking and tobacco sales (*Lancet* 2003). The UK government has, for the time being, ruled out legislation to ban smoking in public (Hall 2003).

Around 13 million (28%) adults in the UK smoke and there are 120 000 deaths each year from smoking-related causes (Department of Health 1998). Rowe & McLeod



Clark (2000) identify a paucity of accurate and contemporary evidence about the prevalence of smoking among registered nurses. The most rigorous studies indicate similar smoking rates for nurses as for adult women in the general population, ranging from 21% to 24.3% (Feldman & Richard 1986, Rowe & McLeod Clark 1999). The rate is higher (46%) among student nurses (Rowe & McLeod Clark 1999). Studies of smoking prevalence for mental health nurses are contradictory, finding both higher (Dore & Hoey 1988) and lower (Tagliacozzo & Vaughan 1982) smoking rates for them than for nurses of other specialities.

Recent guidelines for psychiatric facilities (Health Development Agency 2001) recommend that National Health Service Trusts move towards a smoke-free workplace with no 'smoking allowed' areas for staff. To date, there is a lack of published evidence on the extent to which this guidance has been implemented. Anecdotal evidence suggests that smoking is accepted by staff in psychiatric hospitals and to an extent, at least tacitly, encouraged: 'Health professionals working with this patient group don't see it as their job to help people stop smoking. This must be unique in the health service and shows that we must seek to achieve a total change in attitude' (Moxham 2001).

Users of psychiatric services are more likely to smoke. There are disproportionately higher smoking rates (41%) among people with any history of mental illness (Lasser *et al.* 2000). Rates of smoking among people who live in psychiatric institutions are even higher at around 70–74% (Meltzer *et al.* 1996). This reflects smoking rates (72%) among adult forensic inpatients in the psychiatric hospital described in this study (Haw *et al.* 2004).

Multiple factors may contribute to increased smoking prevalence among the mentally ill. The inverse relationship between smoking and deprivation (Jarvis & Wardle 1999) and the relationship between deprivation and mental illness (e.g. Rasul *et al.* 2001) may combine to increase incidence (McNeill 2001). Smoking may ameliorate the positive symptoms of schizophrenia (Lawn *et al.* 2002) and may reduce the side effects of antipsychotic medication (Levin *et al.* 1996). Mentally ill smokers report more benefits such as a 'calming effect' from smoking than non-mentally ill smokers (Spring *et al.* 2003). The psychiatric inpatient environment may also contribute to high prevalence rates: boredom and lack of alternative activities have been cited as contributory factors (Moxham 2001). Lawn *et al.* (2002) argue that smoking is, for psychiatric inpatients, a means of control in an otherwise uncontrollable environment, and that peer pressure and reinforcement of smoking by the institution also contribute to high prevalence. A service user perspective (Hackney 2001) suggests that there is a cultural element that may add to the problem of smoking

in psychiatric hospitals: 'The smoking room is the hub of the ward environment. At 8.30 every morning, before breakfast, you can learn about the mood of the patients and set the scene for the day by having a cigarette in the smoking room.'

Smoking at work by clinical staff and their attitudes about smoking in psychiatric inpatient settings may also play a role. Mester *et al.* (1993) suggest that nurses believe that smoking has a calming effect on patients and that they may use cigarettes as a tool to achieve therapeutic goals; 29% of patients in this study believed that smoking by staff encouraged them to smoke. Meikeljohn *et al.*'s (2003) study concluded that it was difficult for inpatients in a UK medium-secure unit to quit smoking because of the number of patients and staff who smoke in the ward areas. If it is true that smoking by clinical staff makes it harder for patients to quit, then nurses' own smoking behaviour and attitudes deserve further attention.

The beliefs and attitudes of mental health nurses about smoking do not appear to be clear. Buchanan *et al.* (1994) suggest that nurses in mental health settings are not identifying smoking as a nursing problem and thus not making plans for nursing interventions. Cataldo (2001) claims that psychiatric nurses have failed to consistently assess and treat tobacco use effectively and argues that it is a role for advanced nursing practice. In Buchanan *et al.*'s (1994) US study, psychiatric nurses indicated that they act as role models of healthy behaviour and provide support and advice for patients wishing to quit smoking; however, patients said that nurses provide advice but not support. Furthermore, nurses reported patient resistance and disinterest as the major barrier to helping patients stop smoking, whilst patients said this was not true, with the majority (62%) claiming that they would use support if it was offered (Buchanan *et al.* 1994). It is interesting to note evidence suggesting that more than half of those diagnosed with schizophrenia in a Canadian study expressed a wish to attend a smoking cessation group (Addington *et al.* 1997). Additionally, a small US study (Ziedonis & George 1997) found that provision of a multistrategy smoking cessation group (including nicotine replacement, motivational enhancement and relapse prevention therapies) for individuals diagnosed with schizophrenia assisted 40% of participants to decrease cigarette consumption and 13% to remain abstinent for 6 months. However, both of these North American studies (Addington *et al.* 1997, Ziedonis & George 1997) used outpatient populations and it is not known whether results can be generalized to an inpatient setting.

A group of staff in the current study setting were increasingly concerned about inpatients' physical health, especially the high prevalence of risk factors for coronary



heart disease including smoking (see Haw *et al.* 2004). As one component in a series of smoking cessation initiatives for both staff and patients, a cross-sectional survey of clinical staff was undertaken to describe their smoking behaviour, and their attitudes and beliefs about smoking in clinical areas. The study was exploratory, and aimed to examine differences in attitudes and beliefs about smoking between nurses and other professional groups, therefore non-directional hypotheses about any significant differences between groups were made. The aim of analysis was to provide preliminary descriptions of potential difficulties that might arise in moving towards the expectation outlined in the Health Development Agency (2001) document. At a local level, results were intended to inform the development of smoking policy. The current paper focuses primarily on the responses of registered nurses ( $n = 167$ ), but also draws on data from other clinical professions.

## Setting

A specialist charitable-status psychiatric hospital in the UK caring for approximately 500 adolescent, adult and elderly inpatients with mental illness, learning disability and acquired brain injury.

## Methods

### Design and participants

The study employed a cross-sectional survey design utilizing a self-report questionnaire. All full- and part-time clinical employees, excluding bank and agency staff, were invited to participate, including 429 registered mental health/registered learning disability nurses (RNs), 842 nursing assistants (NAs) and 200 other health professionals (OHPs), including psychiatrists, psychologists, occupational therapists, physiotherapists and social workers. The study was undertaken on a single site. Completion of the questionnaire was not compulsory and we suggest that the obtained sample be regarded as a convenience sample of self-selecting participants.

### Research materials

A questionnaire was designed especially for the current study. An initial search of the international literature on mental health professionals' smoking behaviours and attitudes generated questions for the first draft of the tool, which was then refined and passed to a multidisciplinary reference group (the hospital's 'Health Promotion Group') for comment. Suggested changes were integrated into the document where appropriate, and the questionnaire was

subsequently piloted on a small group of staff to ensure questions were understandable. Comments on questionnaire design and wording were then incorporated into the final version of the tool. To protect the anonymity of participants, and to encourage a higher response rate, it was decided to collect only minimal demographic information on the questionnaire: profession, age band (under 24 years, 25–34, 35–44, 45–54, 55 years +) and smoking status (current smoker, non-smoker or ex-smoker) were requested. Ex-smokers were asked to record how long they had abstained from smoking. Participants were invited to add additional comments to their answers. This paper reports on responses to a selection of questions from the questionnaire; specific questions can be found in Tables 1 and 2. The full questionnaire (available on request from the authors) contained further items regarding respondents' smoking behaviour (duration, frequency, mode of nicotine delivery), intention to quit, and beliefs about tobacco smoke and disease. Further results from this portion of the questionnaire are reported in Stubbs *et al.* (in press).

### Procedure

Approval to conduct the study was obtained from the Hospital's Research Committee. A pre-survey study estimated prevalence rates of smoking among various groups by means of a census maintained by the nurses in charge of all wards over a 24-h period. The highest rate was for patients (59%) with rates of 32% for RNs, 43% for NAs and 24% for OHPs.

Employees were invited to opt out of receiving a questionnaire but none did so. Questionnaires and return envelopes were distributed in January 2003; all materials were unmarked so the researchers were not able to identify individual respondents in any way. It was therefore not possible to individually follow up non-respondents or report on their characteristics. Responses from completed questionnaires were analysed using SPSS 11.0. Chi-square with Yates' correction for continuity was employed to detect significant differences in response between (1) RN smokers and RN non-smokers and (2) between RNs and two other groups of clinical staff, NAs and OHPs. Fishers' exact test was utilized where expected cell frequency was less than 5. All chi-square tests were 2-tailed, reflecting the non-directional hypotheses of the study. For comparisons between smokers and non-smokers, ex-smokers of 12 months or less ( $n = 7$ ) were excluded, and ex-smokers of 12+ months duration were categorized as non-smokers. Differences in age between groups were analysed using the non-parametric Mann-Whitney *U*-test. Additional comments related to each question were transcribed, collated and subjected to a basic content analysis.



**Table 1**  
Comparison of the views of smoking and non-smoking registered nurses

Question	Smokers		Non-smokers		Significance (2-tailed)
	n (29)	%	n (131)	%	
Do you believe staff should be allowed to smoke with patients?					
Yes	27	93.1	63	51.6	$\chi^2 = 15.05$ , df = 1, $P < 0.001$
No	2	6.9	59	48.4	
Do you believe visitors should be allowed to smoke with patients?					
Yes	22	75.9	62	52.1	$\chi^2 = 4.44$ , df = 1, $P < 0.05$
No	7	24.1	57	47.9	
Is staff smoking with patients of value in creating therapeutic relationships?					
Yes	22	78.6	65	53.3	$\chi^2 = 4.99$ , df = 1, $P < 0.05$
No	6	21.4	57	46.7	
Do you believe cigarettes should be given out to achieve therapeutic goals?					
Yes	2	8.3	24	19.0	NS
No	27	91.7	102	81.02	
Do you have problems with patients when they cannot have cigarettes? Patient less calm?					
Yes	21	78.8	95	82.3	NS
No	6	21.2	21	17.7	
Do you have problems with patients when they cannot have cigarettes? Condition deteriorates?					
Yes	13	48.5	48	41.0	NS
No	14	51.5	69	59.0	
Do you think that patients who smoke should be encouraged/helped to stop or cut back?					
Yes	16	59.3	117	91.4	$P < 0.001^*$
No	11	40.7	11	8.6	

NS, not significant.  
\*Fishers exact test utilized where expected cell value < 5.

**Table 2**  
Comparison of the views of registered nurses (RNs), nursing assistants (NAs) and other health professionals (OHPs)

Question	RNs		NAs		OHPs		Significance (2-tailed)
	n (167)	%	n (300)	%	n (123)	%	
Do you believe staff should be allowed to smoke with patients?							
Yes	94	59.1	190	65.7	45	38.5*	*RNs vs. OHPs $\chi^2 = 10.7$ , df = 1, $P < 0.001$
No	65	40.9	99	34.3	72	61.5	
Do you believe visitors should be allowed to smoke with patients?							
Yes	86	55.1	170	58.8	71	64	
No	70	44.9	119	41.2	40	36	
Is staff smoking with patients of value in creating therapeutic relationships?							
Yes	91	57.6	179	61.7	38	31.9*	*RNs vs. OHPs $\chi^2 = 16.95$ , df = 1, $P < 0.001$
No	67	42.4	111	38.3	81	68.1	
Do you believe cigarettes should be given out to achieve therapeutic goals?							
Yes	27	16.5	76	26.2*	19	15.6	*RNs vs. NAs, $\chi^2 = 5.12$ , df = 1, $P < 0.05$
No	137	83.5	214	73.8	103	84.4	
Do you have problems with patients when they cannot have cigarettes? Patient less calm?							
Yes	123	81.5	252	86.3	95	90.5	
No	28	18.5	40	13.7	10	9.5	
Do you have problems with patients when they cannot have cigarettes? Condition deteriorates?							
Yes	65	42.8	137	47.1	27	25.7*	*RNs vs. OHPs $\chi^2 = 7.13$ , df = 1, $P < 0.01$
No	87	57.2	154	52.9	78	74.3	
Do you think that patients who smoke should be encouraged/helped to stop or cut back?							
Yes	142	86.6	228	79.4	113	93.4*	
No	22	13.4	59	20.6	8	6.6	

\*Significant.

## Results

Questionnaires were sent to 429 RNs, 842 NAs and 200 OHPs. Overall response rate was 690/1371 (50.3%).

Response rate by group was 167 (38.9%) RNs, 300 (35.6%) NAs, and 123 (61.5%) OHPs. There were no statistically significant differences in age between RNs and either NAs or OHPs. Neither was there any statistically



significant age difference between RN smokers and RN non-smokers.

### Smoking prevalence

Twenty-nine (17.4%) RNs reported themselves as current smokers, 42 (25.1%) as ex-smokers and 96 (57.5%) as non-smokers. Ninety-three (31%) NAs and eight (6.5%) OHPs reported being current smokers.

### Differences between RN smokers and RN non-/ex-smokers (see Table 1)

Responses to individual questions are outlined in Table 1, together with details for statistically significant differences between RN smokers and RN non-smokers. RN smokers were significantly more likely than RN non-smokers to state that staff should be allowed to smoke with patients and also to state that visitors should be allowed to smoke with patients. RN smokers were more likely to report a value of smoking in the formation of therapeutic relationships, and less likely to believe that patients who smoke should be encouraged to quit or cut back. There was no significant difference between RN smokers and non-smokers on the issue of using cigarettes as a tool to achieve therapeutic goals, with large majorities of smokers and non-smokers stating this should not happen. Most RNs (123, 73.7%) believed patients were less calm when they cannot have cigarettes and there was no difference between smokers and non-smokers responses to this question. Smokers and non-smokers were fairly evenly split on the question of whether a patient's lack of cigarettes might cause their mental health condition to deteriorate.

### Differences between RNs, NAs and OHPs (see Table 2)

RNs were more likely than OHPs to believe that staff should be allowed to smoke with patients and significantly more likely to believe in the value of smoking in the formation of therapeutic relationships. RNs were more likely to attribute a worsening of a patient's mental health condition to lack of cigarettes than did OHPs. RNs differed significantly from NAs only on the question of whether cigarettes should be used as a device to achieve therapeutic goals, with NAs being more likely to respond that this is acceptable.

One possibility is that the differences between RNs and OHPs might be explained by the increased prevalence of smoking in the former group. However, when RN smokers were excluded from the comparison with OHPs, significant differences remained on responses to questions about the therapeutic value of smoking with patients (53.1% vs.

31.9%, RN non-smokers vs. OHPs,  $\chi^2 = 10.49$ ,  $df = 1$ ,  $P < 0.01$ ) and deterioration of patients' mental health when not able to have a cigarette (41.0% vs. 25.7%, RN non-smokers vs. OHPs,  $\chi^2 = 5.70$ ,  $df = 1$ ,  $P < 0.05$ ). The difference between RN non-smokers and OHPs on the question of the acceptability of staff smoking with patients still approached statistical significance (51.5% vs. 38.5%, RN non-smokers vs. OHPs,  $\chi^2 = 3.74$ ,  $df = 1$ ,  $P = 0.053$ ).

A basic content analysis of the additional comments made by RNs provides some useful information. Some RN non-smokers expressed surprise at the suggestion that smoking with patients assists in creating a therapeutic relationship (e.g. 'I do not smoke and I still create a therapeutic relationship'; 'No evidence'; '... non smokers are not less therapeutic'). When asked about whether patients who smoke should be encouraged to quit or cut back, some RN smokers emphasized issues of personal choice (e.g. 'if they choose to', 'up to the individual') whilst RN non-smokers tended to range more widely in response (e.g. 'should be educated to give them an informed choice', 'depends on priorities of treatment programme').

### Discussion

The current paper reports on a cross-sectional survey of smoking behaviours, attitudes and beliefs among RNs and other clinical staff working in a large UK charitable psychiatric hospital. Current smoking prevalence among RNs was 17.4%, a finding lower than previous prevalence studies among UK nurses (see, e.g. Rowe & McLeod Clark 1999) and lower than the 32% found in our pre-survey census. Different responses between RN smokers and RN non-smokers and between RNs and NAs or OHPs could not be attributed to age differences between groups.

RNs' responses to attitudinal questions were broadly similar to those of NAs, differing significantly only in that they were less likely to believe cigarettes should be given out to achieve therapeutic goals. The overwhelming majority against this practice among all groups, including NAs, suggests that this finding is of little practical value. It should be noted that the practice of using cigarettes as rewards is not sanctioned within any written policy or procedure of the hospital. Other attitudinal similarities between RNs and NAs suggest that shared cultural or environmental factors may contribute to their apparently more liberal attitudes towards smoking. Such factors might include higher stress levels, more time in direct patient contact with fewer opportunities to leave the ward, and a different quality to their relationships with patients. Whatever the explanatory factors may be, it is likely that liberal attitudes and behaviours with regard to smoking are a barrier



to helping patients to quit (see, e.g. Meikeljohn *et al.* 2003).

RNs differed significantly from OHPs in their responses on issues of staff smoking with patients, the value of staff smoking with patients, and their perception of difficulties in managing patients when they could not smoke. On the whole, it appears that RNs had more liberal attitudes to smoking than OHPs, also evidenced by open-ended responses that emphasized issues of choice and patient autonomy. One might think that such a finding could be explained by the increased prevalence of smoking in RNs compared with OHPs. It is reasonable to expect that smokers and non-smokers will hold some different attitudes towards the issues tapped within the current study. However, RN non-smokers still differed significantly from all OHPs in their responses, and displayed a more liberal attitude to smoking based on the results from our questionnaire. This is difficult to explain and it does suggest core attitudinal differences to smoking among a large group of RNs in this study compared with OHPs. Mental health nurses may therefore have further to move than their professional colleagues to fully accept tightening regulation of smoking at work.

The near 50 : 50 split among RN non-smokers on questions about smoking with patients and the therapeutic value of this activity suggests a lack of consensus. Further exploratory work could be undertaken to enlighten our understanding of the nature of this schism. A clue that this may not be an insurmountable problem emerges from the finding that although RNs were significantly less likely than OHPs to state that patients should be encouraged to quit or cut back, a large majority (86.6%) stated that such encouragement is right.

There are methodological limitations in the current survey, and the following points are made as a caveat to readers. The low response rate, especially for RNs and NAs, calls into question the representativeness of participants. In an attempt to promote anonymity and encourage uptake, demographic information collected was restricted to age, profession and smoking status, thus limiting further analysis of the data by, for example, gender or ethnicity. It is difficult to say whether response rate would have been further eroded had we requested this information, but there may be scope to replicate this study with wider-ranging collection of demographic data. The disparity between the survey results and that of the pre-survey census may indicate that smokers were particularly reluctant to participate. The sense that society is moving inevitably towards a position of greater restrictions on smokers might make attempts to gather their opinions appear futile, thus contributing to the low response rate. In addition, all self-report research in the area of smoking is beset by problems

of the under-reporting of unhealthy behaviours (see, e.g. Rowe & McLeod Clark 1999). There may therefore be limited value in generalizing results from this one site survey to the wider population of mental health nurses and their professional colleagues.

## Conclusion

Research indicates that many people with mental health problems would like to quit smoking (Addington *et al.* 1997). Furthermore, high quality interventions can and do help people with mental health problems to quit (e.g. Ziedonis & George 1997, Brown *et al.* 2001, McNeill *et al.* 2001). We believe it can only facilitate such interventions when care staff are not contributing to an environment where smoking is seen to be a therapeutic tool or an acceptable part of the culture. We think that there should be no smoking at work by staff or *at least* no smoking by staff where they can be seen by patients. This survey indicates that nurses' attitudes may have further to move in order to accept these premises and that educational resources and change management may need to be concentrated on this group. In a local context, our next steps will be to continue to build upon our staff and patient smoking cessation campaigns. Prior to a review of hospital smoking policy we believe that a similar survey examining the attitudes and views on smoking of psychiatric inpatients will provide further evidence with which to inform our approach.

## References

- Addington J., el-Guebaly N., Addington D. *et al.* (1997) Readiness to stop smoking in schizophrenia. *Canadian Journal of Psychiatry* **42**, 49–52.
- Batty D. (2002) Tobacco giants lose warnings battle. *The Guardian (Society)*, 10 December.
- British Medical Association (2002) *Towards Smoke-Free Public Places*. Board of Science and Education & Tobacco Control Resource Centre, London.
- Brown R.A., Kahler C.W., Niaura R. *et al.* (2001) Cognitive-behavioural treatment for depression in smoking cessation. *Journal of Consulting and Clinical Psychology* **69**, 471–480.
- Buchanan C.R., Huffman C. & Barbour V.M. (1994) Smoking health risks: counselling of psychiatric patients. *Journal of military nursing research* **2**, 28–32.
- Cataldo J.K. (2001) The role of advanced practice psychiatric nurses in treating tobacco use and dependence. *Archives of Psychiatric Nursing* **XV**, 107–119.
- Department of Health (1998) *Smoking Kills: A White Paper on Tobacco*. The Stationery Office, London.
- Department of Health (2002) *The Tobacco Advertising and Promotion Act*. The Stationery Office, London.
- Dore K. & Hoey J. (1988) Smoking practices: knowledge and attitudes regarding smoking of university hospital nurses. *Canadian Journal of Public Health* **79**, 170–174.



- Feldman B.M. & Richard E. (1986) Prevalence of nurse smokers and variables associated with successful and unsuccessful smoking cessation. *Research in Nursing & Health* 9, 131–138.
- Hackney D. (2001) *Service User Perspective. Symposium Report – Smoking and Mental Health*. 9 November 2001. Royal Pharmaceutical Society, London.
- Hall S. (2003) Minister rejects ban on smoking in public. *The Guardian*, November 26th.
- Haw C., Merriman S., Kirk J. & Stubbs J. (2004) Healthy Hearts? Screening long-stay psychiatric patients for risk factors for coronary heart disease. *International Journal of Therapy and Rehabilitation* 11, 113–119.
- Health Development Agency (2001) *Been There, Done That Revisiting Tobacco Control Policies in the NHS*. Health Development Agency, London.
- Jarvis M. & Wardle M. (1999) Social patterning of health behaviours: the case of cigarette smoking. In: *Social Determinants of Health* (eds Marmot, M. & Wilkinson, R.), pp. 2240–2255. Oxford University Press, Oxford.
- Lancet (2003) How do you sleep at night, Mr Blair? (Editorial). *Lancet* 362, 1865.
- Lasser K., Wesley Boyd J., Woolhandler S., Himmelstein D.U., McCormick D. & Bor D.H. (2000) Smoking and mental illness: a population-based prevalence study. *Journal of the American Medical Association* 284, 2606–2610.
- Lawn S.J., Pols R.G. & Barber J.G. (2002) Smoking and quitting: a qualitative study with community-living psychiatric clients. *Social Science and Medicine* 54, 93–104.
- Levin E.D., Wilson W., Rose J.E. *et al.* (1996) Nicotine–haloperidol interactions and cognitive performance in schizophrenics. *Neuropsychopharmacology* 15, 429–436.
- McNeill A. (2001) *Smoking and mental health – a review of the literature*. Report for SmokeFree London programme.
- McNeill A., Foulds J. & Bates C. (2001) Regulation of nicotine replacement therapies (NRT). A critique of current practice. *Addiction* 96, 1757–1768.
- Meikeljohn C., Sanders K. & Butler S. (2003) Physical health care in medium-secure services. *Nursing Standard*, 8–14 January.
- Meltzer H., Gill B., Petticrew M. *et al.* (1996) *Economic activity social functioning of residents with psychiatric disorders (OCPS Surveys of Psychiatric Morbidity in Great Britain. Report 6)*. HMS, London.
- Mester R., Toren P., Ben-Moshe Y. & Weizman A. (1993) Survey of smoking habits and attitudes of patients and staff in psychiatric hospitals. *Psychopathology* 26, 69–75.
- Moxham J. (2001) *Mental health and smoking – an opening address. Symposium report – smoking and mental health*, 9 November 2001. Royal Pharmaceutical Society, London.
- Rasul F., Stansfeld S.A., Davey-Smith G. *et al.* (2001) Sociodemographic factors, smoking and common mental disorder in the Renfrew and Paisley (MIDSPAN) study. *Journal of Health Psychology* 6, 149–158.
- Rowe K. & MacLeod Clark J. (2000) The incidence of smoking amongst nurses: a review of the literature. *Journal of Advanced Nursing* 31, 1046–1053.
- Rowe K. & McLeod Clark J. (1999) Evaluating the effectiveness of a smoking cessation intervention for nurses. *International Journal of Nursing Studies* 36, 301–311.
- Spring B., Pingitore R. & McChargue D.E. (2003) Reward value of cigarette smoking for comparably heavy smoking schizophrenic, depressed and nonpatient smokers. *American Journal of Psychiatry* 160, 316–322.
- Stubbs J., Haw C. & Garner E. (2004) Survey of staffs attitudes to smoking in a large psychiatric hospital. *Psychiatric Bulletin* (in press).
- Tagliacozzo R. & Vaughan S. (1982) Stress and smoking in hospital nurses. *American Journal of Public Health* 5, 441–448.
- Ziedonis D.M. & George T.P. (1997) Schizophrenia and nicotine use: report of a pilot smoking cessation program and review of neurobiological and clinical issues. *Schizophrenia Bulletin* 23, 247–254.





## Smoking in a forensic psychiatric service: a survey of inpatients' views

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### Smoking in a forensic psychiatric service: a survey of inpatients' views

Very little is known concerning the views and beliefs of psychiatric inpatients about smoking in hospital. We conducted a survey of inpatients from the forensic wards of a large independent psychiatric hospital using a structured interview to collect data about their views on smoking. Of 102 patients eligible to participate, 45 (44.1%) agreed to do so. Most participants (34, 75.6%) were current smokers. Most smokers thought it was just too difficult to give up smoking (25, 73.5%). They cited seeing staff and other patients smoking, as well as the smoky atmosphere on the ward, as barriers to quitting. The majority of participants (35, 77.8%) thought that staff should be allowed to smoke with patients. Smokers held more liberal views about smoking than non-smokers. A smaller proportion of non-smokers than smokers were happy with the hospital smoking policy, as reflected in the ward rules about smoking. The results of this survey suggest that a change in attitude and culture towards smoking may be needed in psychiatric units. Smokers should be regularly offered help and encouragement to quit. Psychiatric care staff should carefully consider whether their own smoking behaviour undermines their patients' attempts to stop smoking. More attention should be given to the views and needs of non-smokers.

**Keywords:** health promotion, patient attitudes, smoking

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## Introduction

The prevalence of smoking among adults in Great Britain is 26% (Rickards *et al.* 2004) but among psychiatric inpatients is almost three times higher at between 70% and 74% (Meltzer *et al.* 1996). A similar prevalence has been found among forensic inpatients (Meiklejohn *et al.* 2003, 84%; Haw *et al.* 2004, 72%). The majority of these patients have a diagnosis of schizophrenia, an illness with high mortality rates from smoking-related diseases (Brown *et al.* 2000). The causes of the high prevalence of smoking by psychiatric inpatients appear to be multi-factorial, and related to such factors as: relative poverty (Jarvis & Wardle

1999, Rasul *et al.* 2001), the medicating effects of nicotine (Lawn *et al.* 2002), alleviation of the effects of antipsychotic medication (Levin *et al.* 1996), calming effects of smoking (Spring *et al.* 2003) and hospital culture (Lawn *et al.* 2002).

The behaviour, attitudes and beliefs of staff may also play a role in discouraging patients from quitting. For example, Meiklejohn *et al.* (2003) claim that smoking by staff in a UK medium-secure unit made it more difficult for patients to quit, and Moxham (2001) believes that many mental health care staff do not view smoking cessation as a part of their remit. There is little published evidence about whether or not mental health staff smoke with patients,



though clinical experience suggests that this is a common feature of long-stay psychiatric units. We have previously surveyed the views of psychiatric staff at our hospital towards smoking at work and found mixed results (Dickens *et al.* 2004, Stubbs *et al.* 2004). Some staff, nurses and smokers in particular, thought there was therapeutic value in staff smoking with patients. In a recently published US study, Green & Clarke (2005) surveyed psychiatric outpatients' attitudes and reported that participants seemed resigned to increasing restrictions on smoking in hospital, but also said that little assistance to quit had been offered to them.

Research into smoking-related issues in psychiatric facilities has centred upon the evaluation of the effects of total and partial bans on smoking. A comprehensive international review (el-Guebaly *et al.* 2002) identified 17 such studies, all undertaken in the USA, 14 in inpatient facilities (including some 'locked' units) and three in outpatient clinics. Because of the use of varying outcome measures, the authors were unable to conduct meta-analyses, however, only four of the 17 studies reported an increase in aggressive behaviour by patients following a partial or total smoking ban. Where patients have been asked their opinion on a smoking ban their comments are reported as being generally negative, and ratings of satisfaction with a ban significantly lower than are those of their care staff (e.g. Haller *et al.* 1996). However, there is some evidence that attitudes may shift to significantly greater satisfaction with such a policy post-ban: Resnick & Bosworth (1989) report that support for a smoking ban increased among patients from 7% to 22% following its implementation. In prison settings it is also in the USA that more restrictive measures have been introduced. The Federal Bureau of Prisons banned smoking in 105 prisons in 2004, and anecdotal evidence suggests a similar picture as in psychiatric units: inmates who are smokers are dissatisfied with such a ban, but there is little evidence of an increase in violence (Zoroya 2004).

Current UK guidance (Health Development Agency 2001) recommends that psychiatric hospitals do more about reducing smoking at work, and provides an expectation that all National Health Service (NHS) Trusts will move towards no 'smoking allowed' areas for staff. In the UK, there is no suggestion that detained psychiatric patients should be prohibited from smoking in hospital. However, current Health and Safety (Department of Health 1974, 1992) legislation requires employers to put the needs of non-smokers first and to protect staff and patients from the harmful effects of environmental tobacco smoke. Implementing guidance on smoking in the workplace provides special challenges to managers of secure psychiatric services: for their patients smoking is

the norm (Meltzer *et al.* 1996), though for their staff it is not (Stubbs *et al.* 2004). By definition, detained patients do not have freedom of movement; additionally, risk management procedures may restrict patients' access to smoking areas and smoking materials. This raises ethical issues in the implementation of smoking policies (Lavin 1990), for example, how to balance the rights of smokers and non-smokers.

These competing demands suggest that the views and beliefs of all those affected by moves towards greater restrictions on smoking should be considered. Given that many psychiatric patients would like to stop smoking (Addington *et al.* 1997) and that interventions can help them do so (McNeill 2001), it is also important to understand the difficulties patients feel they would face if they tried to quit. We were unable to find published studies of UK psychiatric inpatients' views about staff smoking or their views on smoking policy and factors that might encourage or hinder their giving up smoking.

## Method

### Design

We used a cross-sectional survey design comprising a structured interview questionnaire specifically designed for this study (see Appendix). Questionnaire items were generated from three sources:

1. a review of the relevant literature;
2. analysis of current hospital smoking policy;
3. modification of a questionnaire used in a previous study on staff attitudes (Stubbs *et al.* 2004).

In addition, basic demographic details of the study population (age, gender, length of stay, and Mental Health Act status) were obtained from participants' medical records. The questionnaire consisted of yes/no response items and statements requiring a response on a 5-point Likert scale (strongly agree, agree, no opinion, disagree, strongly disagree). Questionnaire items were presented both visually and verbally to participants, and a printed copy of the Likert scale was displayed during the interview. The statements presented are given in Tables 2 and 3. Participants were asked about their smoking status (current smoker or non-smoker), their interest in various types of smoking cessation interventions (smokers only) and their views on:

- barriers to and facilitators of quitting smoking (smokers only);
- care staff and visitors smoking at work and/or with patients;
- the role of staff in helping patients to quit smoking;
- the smoking rules on their ward.



In addition to the fixed response items, participants were invited to add comments or expand on their answers to individual questions.

## Participants

Ethical approval to undertake the study was obtained from Leicestershire Medical Research Ethics Committee. All patients in the adult forensic mental health division ( $n = 118$ ) of St Andrew's Hospital, Northampton, a large 500-bed charitable psychiatric hospital, were considered for inclusion. Advice was taken from ward teams about patients' ability to give informed consent to participate in the study. We were advised not to approach 16 patients because of their current mental state. Therefore, 102 patients were invited to be interviewed. The interview questionnaire was piloted for comprehensibility with two healthcare professionals external to the research team. Additionally, the first two interviews with patients were regarded as a pilot, following which two items were discarded as interviewees said they were confusing. Face-to-face interviews were undertaken during March and April 2004, each by two of the researchers to ensure that participants' additional comments were accurately collected. We also gathered anonymized data on non-participants (age, gender, legal status, and length of stay at St. Andrew's Hospital).

## Analysis

Because of the small number of participants, we collapsed the data for attitudinal measurements from the original 5-point Likert scale into three categories (agree/no opinion/disagree). Results were analyzed using Epi-Info (Dean *et al.* 1994). The  $\chi^2$  (with Yates' correction) and the Independent Samples *T*-tests were used to compare the demographic details of participants and those who declined to take part. Comparisons of the views of smokers and non-smokers were made using Fisher's exact test. Additional interview material from our notes

was transcribed and subjected to a basic content analysis.

## Results

### Comparison of participants and non-participants

Of 102 patients invited to participate, 45 (44.1%) agreed to do so. Twenty-six (57.8%) participants were male and 19 (42.2%) female. Participants (see Table 1) were significantly more likely than non-participants to be female, younger and to have a longer duration of stay.

### Smoking status of participants

Thirty-four (75.6%) participants reported themselves as current regular smokers (19 males and 15 females). All current smokers had commenced smoking before admission to this hospital.

### Current smokers' views about giving up smoking

We asked all smokers ( $n = 34$ ) about the difficulty of giving up smoking. Thirty-three (97.1%) had previously considered stopping smoking, and 30 (88.2%) had tried to quit at least once in the past. Nearly all (33, 97.1%) said they would consider quitting at sometime in the future. We presented participants with six statements about stopping smoking and asked them to state their level of agreement on a 5-point Likert scale (strongly agree, agree, no opinion, disagree, strongly disagree). Results, collapsed down into three categories (agree, no opinion, disagree), are given in Table 2.

Most smokers (25, 73.5%) agreed that 'it's just too difficult to give up smoking'. Regarding barriers to stopping smoking, 27 (79.4%) agreed that 'seeing other patients smoking would make it difficult to stop smoking', while there was less agreement that 'the smoky atmosphere would make it too difficult to stop smoking' (20, 58.8% agreed) or that 'seeing members of staff smoking would

**Table 1**  
Characteristics of participants and non-participants ( $n = 102$ )

Demographic and legal details	Participants ( $n = 45$ )	Non-participants ( $n = 57$ )	Statistical test
Gender			
Male	26 (57.8%)	45 (78.9%)	$\chi^2 = 4.37$ , d.f. = 1, $P < 0.05$
Female	19 (42.2%)	12 (21.1%)	
Legal status			
Detained	40 (88.9%)	54 (94.7%)	Fisher's exact test, not significant
Informal	5 (11.1%)	3 (5.3%)	
Mean age in years (SD)	36.0 (9.7)	39.5 (8.5)	$t = -1.995$ , d.f. = 100, $P < 0.05$
Mean length of hospital stay in months (SD)	60.6 (58.5)	39.6 (37.5)	$t = 2.197$ , d.f. = 100, $P < 0.05$



**Table 2**  
Current smokers' views about quitting smoking ( $n = 34$ )

Statement about quitting smoking	Smokers' responses to the statements		
	Agree $n$ (%)	No opinion $n$ (%)	Disagree $n$ (%)
'It's just too difficult to give up smoking'	25 (73.5)	3 (8.8)	6 (17.6)
'Seeing other patients smoking would make it difficult to stop smoking'	27 (79.4)	1 (2.9)	6 (17.6)
'Seeing members of staff smoking would make it difficult to stop smoking'	19 (55.9)	3 (8.8)	12 (35.3)
'The smoky atmosphere would make it difficult to stop smoking'	20 (58.8)	2 (5.9)	12 (35.3)
'There isn't enough encouragement from staff to give up smoking'	10 (29.4)	4 (11.8)	20 (58.8)
'There isn't enough information about giving up smoking'	9 (26.5)	1 (2.9)	24 (70.6)

**Table 3**  
Patients' views about smoking ( $n = 45$ )

Statement about smoking	Participants' responses to the statements		
	Agree $n$ (%)	No opinion $n$ (%)	Disagree $n$ (%)
'Staff should be allowed to smoke at work'	37 (82.2)	3 (6.7)	5 (11.1)
'Staff should be allowed to smoke with patients'	35 (77.8)	4 (8.9)	6 (13.3)
'Visitors should be allowed to smoke with patients'	37 (82.2)	4 (8.9)	4 (8.9)
'The rules about smoking on my ward are just about right'	35 (77.8)	2 (4.4)	8 (17.8)
'Staff should encourage patients who smoke to stop or cut back'	25 (55.6)	8 (17.8)	12 (26.7)
'Staff should set a good example to patients by not smoking'	12 (26.7)	9 (20.0)	24 (53.3)

**Table 4**  
Comparison of smokers and non-smokers' views about smoking

Statement about smoking	Agreement with the statement		Fisher's exact test 2-tailed $P$ -values
	Smokers ( $n = 34$ ) $n$ (%)	Non-smokers ( $n = 11$ ) $n$ (%)	
'Staff should be allowed to smoke at work'	31 (91.2)	6 (54.5)	$P < 0.05$
'Staff should be allowed to smoke with patients'	29 (85.3)	6 (54.5)	$P < 0.05$
'Visitors should be allowed to smoke with patients'	32 (94.1)	5 (45.5)	$P < 0.005$
'The rules about smoking on my ward are just about right'	30 (88.2)	5 (45.5)	$P < 0.01$
'Staff should encourage patients who smoke to stop or cut back'	19 (55.9)	6 (54.5)	NS
'Staff should set a good example to patients by not smoking'	6 (17.6)	6 (54.5)	$P < 0.05$

make it difficult to stop smoking' (19; 55.9% agreed). Only a minority of patients thought 'there isn't enough encouragement from staff to give up smoking' (10, 29.4%) or 'there isn't enough information about giving up smoking' (9, 26.5%).

Smokers also told us which interventions they would find most helpful if they did decide to stop smoking. They were as follows: nicotine replacement therapy (24, 70.6%), a smoking cessation group (11, 32.4%) and general support and advice (6, 17.6%).

### Participants' views about staff smoking at work

In the second part of the interview we asked all participants (smokers and non-smokers,  $n = 45$ ) questions about staff, patients and visitors smoking, and the ward rules about smoking. All patients (100%) reported seeing staff smoking at work and 42 (93.3%) said that they saw staff smoking in the ward smoking area. We asked participants to

respond to a series of statements relating to rules about smoking (see Table 3). Most patients expressed liberal attitudes towards smoking, believing that both staff and visitors should be allowed to smoke with patients (35, 77.8% and 37, 82.2% respectively, agreed). The majority, 35 (77.8%) thought the rules about smoking on their ward were about right. There was less agreement that staff should encourage patients who smoke to stop or cut back (25, 55.6%) and relatively few patients thought that staff should set a good example by not smoking (12, 26.7%).

### Comparison of the views of smokers and non-smokers

Unsurprisingly, smokers expressed significantly more liberal attitudes to smoking than non-smokers did on five of the six statements about smoking given in Table 4. Smokers were more likely than non-smokers to believe that staff (29, 85.3% vs. 6, 54.5%) and visitors (32, 94.1% vs. 5, 45.5%) should be allowed to smoke with patients and were



more likely to be in agreement with the ward smoking rules (30, 88.2% vs. 5, 45.5%). A greater proportion of non-smokers than smokers thought that staff should set a good example by not smoking (6, 54.5% vs. 6, 17.6%). However, these results should be interpreted with caution because of the small number of non-smokers involved ( $n = 11$ ).

## Discussion

The results of this survey shed some light on the views and attitudes towards smoking held by forensic inpatients. Most of the participants (76%) were current smokers. This finding is commensurate with smoking prevalence in long-stay psychiatric environments (Meltzer *et al.* 1996, Meiklejohn *et al.* 2003). Although all but one patient said they would like to stop smoking, the vast majority of smokers (74%) felt that it was just too difficult to quit. Barriers to stopping smoking were staff and other patients smoking (56% and 79% respectively) and the smoky atmosphere on the ward (59%). Several smokers commented that boredom was also a factor in their smoking. The majority of patients felt that there was enough encouragement from staff to give up smoking (59%) and that there was enough information available about quitting (71%). It is well known that it is very difficult to successfully get psychiatric patients to give up smoking (Hughes & Frances 1995). We believe that despite these difficulties, it is a clear duty of staff to regularly offer patients help with stopping smoking, as well as to promote the health benefits of quitting.

Our study has a number of methodological weaknesses. Firstly, it was a small, exploratory study with a fairly low participation rate (44%). Participants were not entirely representative of the patient population and in particular we had difficulty in recruiting older men. In addition, we only recruited 11 non-smokers and this limited the statistical power of the smoker vs. non-smoker comparisons. The study setting is an independent sector, tertiary referral centre and therefore the findings do not necessarily generalize to NHS secure units. Finally, we did not collect data on psychiatric diagnosis, which may be important as the prevalence of smoking varies according to the type of mental disorder (Hughes *et al.* 1986, McNeill 2001).

The question of staff smoking at work and in particular with patients is a thorny one. Most participants in this survey (78%) thought that staff should be allowed to smoke with patients, although non-smokers were far more evenly split on this question. Paradoxically, the majority of smokers agreed that seeing staff smoking at work would make it more difficult for them to quit. Mental health care profes-

sionals should be aware that their own smoking behaviour could be making it more difficult for their patients to stop smoking. The detailed comments we gathered from participants suggested that patients who smoke appreciate the opportunity to do so with their care staff (e.g. 'It's therapeutic for us. The nurse calms you down having a one to one in the smoke room', 'It helps break down barriers'). However, other patients' reports suggested that their defence of staff smoking might be rooted elsewhere. There was evidence of a respect for the self-determination for staff, e.g. 'They are adults and can decide for themselves.' Additionally, there was a fear of what the environment might be like should staff be prohibited from smoking. For example, 'There would be a "them and us" feeling,' '... it would make staff stressed, which would make patients lives more difficult,' 'I've been in a hospital where staff couldn't smoke and they were horrible. Patients gave cigarettes to staff they liked.' Psychiatric staff should not automatically assume that smoking with patients is simply a therapeutic or relaxing activity. Patients may place other interpretations on staff smoking behaviour.

Non-smoking patients were significantly less happy than smokers with current hospital smoking policy as reflected in the smoking rules on their ward and this is important. Comments by non-smokers suggested that ward milieus were, in their view, designed for, or biased towards smokers. This is unsurprising, as non-smokers are in the minority. However, it is a concern when non-smokers, who are detained for long periods in a psychiatric hospital, complain about the health and safety aspects of their care environment. Several non-smokers were unhappy about cigarette smoke escaping from smoking areas and about occasions when patients who smoke had done so in supposed non-smoking areas. Comments on ward layout, such as the positioning of the drug trolley in a smoking area or location of a satellite television receiver in a smoking room, were also recorded. It would clearly be very harsh and unreasonable to ban patients from smoking in, what has in effect become, their home. However, care staff have a duty to protect non-smokers from environmental tobacco smoke and careful thought should be given to this when designing or reviewing ward environments. Furthermore, it should be noted that most smokers agreed that 'seeing other patients smoking' would make it difficult to quit. This suggests that patients who smoke should do so only in non-communal designated areas, as this would aid those who are trying to quit by ensuring that the smoking area is not the focal point of the ward environment.

Despite some methodological weaknesses, we feel that our study provides some preliminary evidence of patients' views and attitudes towards smoking in psychiatric hospi-



tals. Patients' views should be taken into account when developing local smoking policies. Our findings suggest that, in accordance with the international literature, smoking bans in forensic inpatient services in the UK would prove unpopular with service users.

## Conclusion

The results of this small survey of forensic inpatients show that most patients were smokers and felt that they faced substantial barriers to quitting. Most patients felt that staff and visitors should be able to smoke with them. Not surprisingly, non-smokers were less liberal in their attitudes towards smoking than smokers were and in particular, they were less happy about the arrangements for smoking on their ward than smokers were. Smoking policies for staff in the workplace commonly state that the needs of non-smokers will be prioritized. We do not feel this is currently the case for either patients or staff, and that more needs to be done to protect the health and rights of non-smokers. Current guidance recommends that trusts move towards no smoking at work for staff (Health Development Agency 2001), and at least one high secure hospital has already adopted this policy. Our hospital is now revising its smoking policy, such that staff will no longer be able to smoke with patients but only in restricted smoking areas outside of buildings. We hope this move will encourage more staff and patients to give up smoking and will improve their physical health.

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## References

- Addington J., el-Guebaly N., Addington D. & Hodgins D. (1997) Readiness to stop smoking in schizophrenia. *Canadian Journal of Psychiatry* **42**, 49–52.
- Brown S., Inskip H. & Barraclough B. (2000) Causes of the excess mortality of schizophrenia. *British Journal of Psychiatry* **177**, 212–217.
- Dean A., Dean J., Coulombier D., Brendal K., Smith D., Burton A., Diker R., Sullivan K., Arner T. & Fagan R. (1994) *EpiInfo, Version 6: A Word Processing Database and Statistics Program for Epidemiology on Microcomputers*. Centers for Disease Control and Prevention, Atlanta, GA.
- Department of Health (1974) *Health and Safety at Work Etc Act*. HMSO, London.
- Department of Health (1992) *Work Place Regulations*. HMSO, London.
- Dickens G., Stubbs J. & Haw C. (2004) Smoking and mental health nurses: a survey of clinical staff in a psychiatric hospital. *Journal of Psychiatric and Mental Health Nursing* **11**, 445–451.
- Green M.A. & Clarke D.E. (2005) Smoking reduction and cessation: a hospital-based survey of outpatients' attitudes. *Journal of Psychosocial Nursing* **43**, 18–25.
- el-Guebaly N., Cathcart J., Currie S., Brown D. & Gloster S. (2002) Public health and therapeutic aspects of smoking bans in mental health and addiction settings. *Psychiatric Services* **53**, 1617–1622.
- Haller E., McNeil D.E. & Binder R.L. (1996) Impact of a smoking ban on a locked psychiatric unit. *Journal of Clinical Psychiatry* **57**, 329–332.
- Haw C., Merriman S., Kirk J. & Stubbs J. (2004) Healthy hearts? Screening for risk factors for coronary heart disease. *International Journal of Therapy and Rehabilitation* **11**, 113–118.
- Health Development Agency (2001) *Where Do We Go from Here? Tobacco Control Policies within Psychiatric and Long Stay Units: Guidance on Development and Implementation*. Health Development Agency, London.
- Hughes J.R. & Frances R.J. (1995) How to help psychiatric patients stop smoking. *Psychiatric Services* **46**, 435–436.
- Hughes J., Hatsukami D., Mitchell J. & Dahlgren L. (1986) Prevalence of smoking among psychiatric outpatients. *American Journal of Psychiatry* **143**, 993–997.
- Jarvis M. & Wardle M. (1999) Social pattern of health behaviours: the case of cigarette smoking. In: *Social Determinative Health* (eds Marmot, M. & Wilkinson, R.), pp. 240–55. Oxford University Press, Oxford.
- Lavin M. (1990) Let the patients smoke: in defence of patient privilege. *Journal of Medical Ethics* **16**, 136–140.
- Lawn S.J., Pols R.G. & Barber J.G. (2002) Smoking and quitting: a qualitative study with community-living psychiatric clients. *Social Science and Medicine* **54**, 93–104.
- Levin E.D., Wilson W., Rose J.E. & McEvoy J.P. (1996) Nicotine-haloperidol interactions and cognitive performance in schizophrenics. *Neuropsychopharmacology* **15**, 429–436.
- McNeill A. (2001) Smoking and mental health – a review of the literature. Report for Smoke Free London Programme. Available at <http://www.ash.org.uk/html/policy/menlitrev.html> (Accessed 29th June 2004).
- Meiklejohn C., Sanders K. & Butler S. (2003) Physical health care in medium-secure services. *Nursing Standard* **17**, 33–37.
- Meltzer H., Gill B., Hinds R. & Petticrew M. (1996) *Economic Activity and Social Functioning of Residents with Psychiatric Disorders* (OCPS Surveys of Psychiatric Morbidity in Great Britain. Report 6). HMSO, London.
- Moxham J. (2001) *Mental Health and Smoking – An Opening Address*. Symposium Report – Smoking and Mental Health, 9th November 2001. Royal Pharmaceutical Society, London.
- Rasul F., Stansfeld S.A., Davey-Smith G., Hart C.L. & Gillis C.R. (2001) Sociodemographic factors, smoking and common mental disorder in the Renfrew and Paisley (MIDSPAN) study. *Journal of Health Psychology* **6**, 149–158.
- Resnick M. & Bosworth E. (1989) A Smoke-free psychiatric unit. *Hospital and Community Psychiatry* **40**, 525–527.
- Rickards L., Fox K., Roberts C., Fletcher L. & Goddard E. (2004) *Living in Britain No. 31 Results from the 2002 General Household Survey*. TSO, London.
- Spring B., Pingitore R. & McChargue D.E. (2003) Reward value of cigarette smoking for comparably heavy smoking schizo-



phrenic, depressed and nonpatient smokers. *American Journal of Psychiatry* 160, 316–322.

Stubbs J., Haw C. & Garner E. (2004) A survey of staff smoking in a psychiatric hospital. *Psychiatric Bulletin* 28, 204–207.

Zoroya G. (2004) Smoking bans spread to prisons. *USA Today* 21/7/2004. Available at [http://www.usatoday.com/news/nation/2004-07-21-prison-smoking-usat\\_x.htm](http://www.usatoday.com/news/nation/2004-07-21-prison-smoking-usat_x.htm) accessed 13/05/2005-05-13

Appendix: Smoking questionnaire

<p>1. Have you ever smoked? (circle as appropriate) Yes/No (If no go to question 14)</p> <p>2. Do you now smoke: (tick as appropriate) Daily <input type="checkbox"/> Sometimes <input type="checkbox"/> Not at all <input type="checkbox"/> (If 'not at all' go to 14)</p> <p>3. Did you start smoking at this hospital? Yes/No</p> <p>4. Have you ever tried to give up smoking? Yes/No</p> <p>I am now going to read out some statements about giving up smoking. For each one, I will ask you how much you agree with the statement (explain and show scale).</p> <p>If participant has tried to give up smoking before then say: 'When I show you the statements, you might like to think about when you tried to give up smoking before'.</p> <p>If participant has not tried to give up before then say: 'When I show you the statements, you might like to imagine you are trying to give up now'.</p> <p>For items 5–10: 1 = strongly disagree 2 = disagree 3 = No opinion 4 = agree 5 = strongly agree (circle as appropriate)</p> <p>5. 'There isn't enough information about how to give up smoking' 1 2 3 4 5 Other comments:</p> <p>6. 'There isn't enough encouragement from staff to give up smoking' 1 2 3 4 5 Other comments:</p> <p>7. 'The smoky atmosphere would make it difficult to give up smoking' 1 2 3 4 5 Other comments:</p>	<p>8. 'Seeing other patients smoking would make it difficult to stop smoking' 1 2 3 4 5 Other comments:</p> <p>9. 'Seeing members of staff smoking would make it difficult to stop smoking' 1 2 3 4 5 Other comments:</p> <p>10. 'It's just too difficult to give up smoking' 1 2 3 4 5 Other comments:</p> <p>11. Does anything else stop you from giving up smoking? Yes/No If 'yes' what?</p> <p>12. If you did consider stopping smoking, do you think you would need help to stop? Yes/No (If 'no' go to 14)</p> <p>13. What would be the most helpful things? (allow free response then prompt) Nicotine replacement therapy (gum, patches) Yes/No 'No smoking' sessions Yes/No General help and advice Yes/No Anything else</p> <p>14. Do you see staff smoking at work? Yes/No (If 'no' go to 16)</p> <p>15. Where do you see staff smoking? (allow free response then prompt) Smoking room Yes/No Office Yes/No Outside Yes/No Anywhere else Yes/No</p>	<p>I am now going to read out some statements about smoking at the hospital. I will ask you how much you agree or disagree with each of the statements</p> <p>For items 16–21: 1 = strongly disagree 2 = disagree 3 = No opinion 4 = agree 5 = strongly agree (circle as appropriate)</p> <p>16. 'Staff should be allowed to smoke at work' 1 2 3 4 5 Other comments:</p> <p>17. 'Staff should be allowed to smoke with patients' 1 2 3 4 5 Other comments:</p> <p>18. 'Visitors should be allowed to smoke with patients' 1 2 3 4 5 Other comments:</p> <p>19. 'The rules about smoking on my ward are just about right' 1 2 3 4 5 Other comments:</p> <p>20. 'Staff should encourage patients who smoke to stop or cut back' 1 2 3 4 5 Other comments:</p> <p>21. 'It is important for members of staff to set a good example to patients by not smoking' 1 2 3 4 5 Other comments:</p> <p>Thank you for your time and help. Is there anything else you would like to tell us about smoking in the hospital?</p>
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# An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study

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## Accessible summary

- Breakaway techniques are a set of physical skills which are intended to help someone 'break away' from an aggressor. They are taught to most people who work in mental health services in the UK because assault against staff is quite common. Considerable time and money is spent teaching breakaway techniques, and it is important people should be able to remember the skills. However, breakaway training can be quite complex and we do not know whether people are able to recall the techniques if they get assaulted.
- We asked people who work in a large psychiatric hospital who had received breakaway training to take part in this study and 147 people agreed to do so. One of us simulated an assault on each participant and asked them to use the techniques that they had been taught to break away from the assault. Two breakaway experts watched the simulation and judged whether the participant used the correct techniques to separate from the aggressor.
- Only a small minority (14%) of people used the correct procedures taught to them in order to break away from an assault. However, most people (80%) did manage to break away from the assault even if they did not use the techniques taught to them.
- This study provides further evidence that breakaway training may be too complex for people to recall in real-life situations. More research is needed to find out what types of training are best recalled. Techniques that most closely resemble instinctual responses may be better remembered.

## Abstract

This paper describes an audit study of the effectiveness of breakaway training conducted in a specialist inpatient mental health hospital. Breakaway techniques comprise a set of physical skills to help separate or break away from an aggressor in a safe manner, but do not involve the use of restraint. Staff ( $n = 147$ ) were assessed on their ability to break away from simulations of potentially life-threatening scenarios in a timely manner, and using the techniques taught in annual breakaway or refresher training. We found that only 14% (21/147) of participants correctly used the taught techniques to break away within 10 s. However, 80% of people were able to break away from the scenarios within 10 s but did not use the techniques taught to them. This audit reinforces questions about breakaway training raised in a previous study. It further demonstrates the need for a national curriculum for physical intervention training and development of the evidence base for the content of such training as a priority.



## Introduction

Violent and aggressive behaviour towards clinical staff in mental health inpatient settings remains a serious problem. Nurses appear to be at particular risk: a recent survey indicated that 46% of nurses employed in working age psychiatric services and 64% in older people's psychiatric services had been the victim of a physical assault at work (Healthcare Commission 2007a,b). The National Institute for Mental Health in England (NIMHE 2005) have recommended that staff who are exposed to violence and aggression should be trained in physical intervention skills, including 'breakaway' techniques. These techniques are defined by the National Institute for Clinical Excellence (NICE 2005) as 'a set of physical skills to help separate or break away from an aggressor in a safe manner . . . [and] do not involve the use of restraint'. The Nursing and Midwifery Council (2001) have also recommended that staff, including non-clinical employees, be trained in the use of de-escalation techniques and breakaway skills. A call for allied healthcare professionals who work in mental health settings to adopt similar training on pre-registration training courses has also been made (Stubbs & Dickens 2008).

There appears, then, to be a level of political will to equip staff with the skills and techniques to avoid harm or injury due to physical assault. However, on closer examination the subject is less clear. Despite progress made in the development of a theoretical basis for a national syllabus for physical skills intervention, including breakaway training (NHS Security Management Service 2005), such a programme has not yet been implemented. Even the fundamental question of what, precisely, constitutes breakaway training remains open. Rogers *et al.* (2007) identify that the dominant model of training in 'physical interventions', including breakaway skills, was that developed within the prison service of England and Wales in the 1980s. At the outset this training was highly regulated, but since the late 1980s multiple variations on techniques have been introduced by trainers working in both the National Health Service (NHS) and private business 'as they saw fit'. Furthermore, there are differences in the United Kingdom in terms of how frequently breakaway training should be provided. In England and Scotland there is no guidance on which techniques should be taught, while in Wales there are (Rogers *et al.* 2007). An observational study of a 1-day breakaway training course at Broadmoor high-secure hospital (Rogers *et al.* 2007) found that 21 different techniques were taught over the day, each technique being demonstrated on average for just under 7 min and being practiced by attendees for nearly 6 and a half minutes. The authors argue that it is 'not plausible' to train staff in so many techniques in such a short time.

It appears that the vast majority of staff, at least in acute psychiatry, receive training in some form of breakaway techniques: Wright *et al.* (2005) report a figure of 85% among nurses surveyed in a national UK study. There are, however, no nationally recorded data on the use of breakaway techniques and empirical data are fairly scant. Southcott & Howard (2007) recorded just seven uses during the course of a prospective 3-year study in a Psychiatric Intensive Care Unit, with five episodes facilitating escape. Rogers *et al.* (2006) state that no participants (registered nurses and healthcare assistants employed at a medium-secure unit) who they recruited into their audit of breakaway training reported having used any breakaway technique in the preceding year. Wright *et al.* (2005) report that 70% of their sample had not used breakaway techniques on at least one occasion when they had been assaulted, suggesting that the techniques they had learned may not have been useful for many examples of assault.

Finally, we must ask whether breakaway training is actually effective in reducing injuries from assault. An NICE (2005) review found that staff felt satisfied and slightly more confident as a result of breakaway training, but this cannot be said to demonstrate effectiveness. A recent paper (Rogers *et al.* 2006), which the current study aims to replicate, reported that 40% of nursing staff working on one medium-secure psychiatric unit in the United Kingdom were unable to break away from a simulated life-threatening situation within 10 s. The lead author is reported (Parish 2007) as saying 'there is little evidence that breakaway training actually works. . . . Nurses are being sent on 70 000 training days a year because it seems a good idea'.

One of the recommendations made by Rogers *et al.* (2006) was that their study be replicated to ensure that their findings are transferable. This paper therefore describes a similar audit study in a UK specialist inpatient mental health hospital. Given that all staff employed by the organization in the current study are trained in breakaway techniques and receive an annual training refresher, the opportunity to expand the audit to include non-nursing staff was taken.

## Method

### Aims

The study aimed to ascertain the recollection and implementation of breakaway training techniques taught to staff at a large psychiatric hospital. The current study therefore largely replicated a previously published audit (Rogers *et al.* 2006), though some alterations were made to take into account local variations in practice.



## Setting

The study was conducted at St Andrew's Hospital, Northampton, a charitable provider of specialist inpatient services for approximately 500 adults and adolescents with mental disorder, learning disability or acquired brain injury. Many patients have challenging behaviours. All staff (approximately 2000) are trained in breakaway techniques on their initial induction and refresher updates are provided annually. Breakaway training forms one of the organization's 'Key Performance Indicators' and annual attendance is mandatory. High levels of attendance (98%+) are attained. Clinical staff, of course, undertake further prevention and management of aggression and violence training, but it is the breakaway component that forms the focus of this study.

## Design

A cross-sectional audit design was utilized to evaluate the effectiveness of breakaway training at the hospital. The definition of clinical audit endorsed by NICE (2002) is:

... a quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and the implementation of change. Aspects of the structure, processes, and outcomes of care are selected and systematically evaluated against explicit criteria. Where indicated, changes are implemented at an individual, team, or service level and further monitoring is used to confirm improvement in healthcare delivery.

Essentially, clinical audit measures existing practice against an explicit standard or 'best practice' criteria. In a clinical research trial, two or more alternative interventions are tested head-to-head to establish which is the most effective, but clinical audit tests whether the currently approved routine intervention is being implemented correctly. Clinical audit projects do not require approval from an NHS Research Ethics Committee, although of course that does not mean there are no ethical implications. The study was approved by the hospital's Healthcare Governance Department and Training and Development Board.

As in Rogers *et al.*'s (2006) study, an explicit standard was adopted in order to measure the current performance of breakaway training. The standard chosen was whether participants correctly recalled and implemented the techniques taught to them to 'break away' from a simulated life-threatening situation, and did so within an appropriate time frame (10 s). The rationale for this time frame was that, in a real-life situation, failure to break away within 10 s would be likely to lead to unconsciousness or death (Rogers *et al.* 2006).

## Participants

Potential participants were any members of clinical or non-clinical staff, ward-based or otherwise. Sampling was opportunistic. Staff were approached, given information about the study and requested to participate. It was emphasized that the study aimed to ascertain the effectiveness of breakaway training and was not aimed at assessing their ability. Three exclusion criteria were used: individuals were not included in the study if they did not feel physically able to take part, if they had not been trained in breakaways or received an update in the past 12 months, or if they did not wish to take part.

## Procedure

The audit team consisted of three conflict management advisors, all were previously healthcare assistants who have subsequently received extensive specialist training. One of the three, the lead auditor, was assigned to play the role of violent assailant while the other two independently assessed the participant's use of breakaway techniques to escape from the hold. The use of two independent raters aimed to ascertain the extent to which the measures developed for the study could claim to have inter-rater reliability.

Demographic details including age, gender, occupation and experience were collected from participants. Eligible participants were taken into a safe, prepared and screened area where the procedure was fully explained by the lead auditor. Participants were requested to randomly select one of five unmarked envelopes. Each envelope contained one of the following scenarios:

- a straight arm strangle hold from the front;
- a hair pull from the front;
- neck lock;
- bar neck lock; and
- a bear hug with arms trapped.

The lead auditor read aloud the scenario and gave the participant 5 s to think about the situation before the simulation commenced. If the participant had not escaped within 10 s the simulation was halted. The two independent raters completed the audit measures during the scenario. Participants were given a chance to discuss the experience afterwards.

## Measures

As noted by Rogers *et al.* (2006), there are no agreed national standards on which breakaway techniques should be taught, and there is variation between taught courses. This means that audit measures will need to directly reflect the particular techniques that are taught in the study



**Table 1**  
 Characteristics of the sample, the number (%) using the taught technique to break away within 10 s and the number (%) of those breaking away within 10 s though not using the taught technique

	Sample size <i>n</i> (%)	Used the taught technique <i>n</i> (%)	Successful breakaway (any technique) <i>n</i> (%)
Total	147 (100)	21 (14.3)	117 (79.6)
Gender			
Male	60 (40.8)	8/60 (13.3)	51/60 (85.0)
Female	87 (59.2)	13/87 (14.9)	66/87 (75.9)
Age			
20–40	88 (59.9)	12/88 (13.6)	67/88 (76.1)
41–61	59 (40.1)	9/59 (15.3)	50/59 (84.7)
Occupation			
Nurse	23 (15.6)	5/23 (21.7)	17/23 (73.9)*
Healthcare assistant	41 (27.9)	5/41 (12.2)	27/41 (65.9)
Other clinical	48 (32.7)	5/43 (11.6)	42/48 (87.5)
Non-clinical	35 (23.8)	6/29 (20.7)	31/35 (88.6)
Years working in mental health			
0–10	106/147 (72.1)	16/106 (15.1)	80/106 (75.5)
11–25	41/147 (28.9)	5/41 (12.2)	37/41 (90.2)
Lifetime number of breakaway training and updates			
1	36/147 (24.5)	2/36 (5.6)	29/36 (80.6)
2+	111/147 (75.5)	19/111 (17.1)	88/111 (79.3)
Used breakaway in past 12 months			
Yes	31/147 (21.1)	2/31 (6.5)	26/31 (83.9)
No	116/147 (78.9)	19/116 (16.4)	91/116 (78.4)
Used breakaway ever			
Yes	60/147 (40.8)	9/60 (15.0)	52/60 (86.7)
No	87/147 (59.2)	12/87 (13.8)	65/87 (74.7)

\* $P < 0.05$ .

Pearson's chi-square = 8.806, d.f. = 3.

setting. Therefore, five audit tools, one for each 'hold' outlined previously, were developed by the study team. The tools were extensively discussed and agreed among the team as accurately reflecting the taught method for breaking away from each hold. An example of the method taught to break away from a strangle hold is provided in Appendix I. Independent raters were required to judge whether each step in the technique had been completed as per the training received, and also whether the participant managed to escape from the hold within 10 s.

### Data analysis

Data were entered into SPSS Version 16.0 (SPSS Inc., Chicago, IL, USA). Adherence to the audit standard was gauged by simple descriptive statistics. Pearson's chi-squared test for distribution with Yates' continuity correction was employed to identify differences between groups in terms of achieving the audit standard. Inter-rater reliability between two independent raters was tested using the kappa ( $\kappa$ ) measurement.

### Results

In total, 175 employees were approached to participate in the audit. Twenty-eight potential participants were

excluded because they had not received breakaway training or an update in the past year, because they did not feel physically able to participate, or because they did not agree to participate. This left a sample of 147 participants, with a response rate of 84%. The 28 non-participants did not differ significantly from participants on any of the demographic variables collected.

The  $\kappa$  measurement for each of the two outcomes showed excellent inter-observer agreement ( $\kappa = 1$  for whether the participant had managed to break away,  $\kappa = 0.97$  for whether the participant had used the taught technique to break away). This means that for the outcome 'successful breakaway' both raters were always in agreement and for the outcome 'used taught technique' there was 1/147 (0.7%) case where raters disagreed as to whether the taught technique had been used.

Table 1 shows the descriptive characteristics of the participants, the number (%) of those using the taught techniques to break away and the number (%) of those actually managing to break away irrespective of whether the taught techniques were used. Only 21 (14.3%) of the sample fully employed the taught techniques to remove themselves from dangerous situations. However, 117 (79.6%) managed to effect their breakaway though not necessarily using the taught techniques. Post hoc statistical analysis suggests that



**Table 2**  
 Characteristics by 'hold' employed of the sample, the number (%) using the taught technique to break away within 10 s and the number (%) of those breaking away within 10 s though not using the taught technique

	Sample size <i>n</i> (%)	Used the taught technique <i>n</i> (%)	Successful breakaway (any technique) <i>n</i> (%)
Hold used			
Straight arm strangle from the front	30/147 (20.4)	3/30 (10.0)	26/30 (86.7)
Hair pull from the front	33/147 (22.4)	4/33 (12.1)	25/33 (75.8)
Common neck lock	22/147 (15.0)	4/22 (18.2)	16/22 (72.7)
Bar neck lock	26/147 (17.7)	4/26 (15.4)	20/26 (76.9)
Bear hug, arms trapped	36/147 (24.5)	6/36 (16.7)	30/36 (83.3)

nursing staff (combined nurses and healthcare assistants) were significantly less likely to effect escape using any method than were other clinical and non-clinical staff (68.8% vs. 88%, Pearson's chi-square = 7.063, d.f. = 1,  $P < 0.01$ ). Table 2 displays a breakdown of results for each particular hold; there was no statistically significant difference in successful breakaway between the various holds.

### Use of breakaway techniques

About one in five of our participants had used breakaway techniques in clinical situations in the past year and about two in five had used breakaway techniques in clinical situations ever. None (0%) of the 47 participants in the Caswell study (Rogers *et al.* 2006) had used breakaway techniques in the past 12 months. We asked participants to describe the occasions when they had used breakaway, but there was too little data reported for analysis.

### Discussion

In the current study, staff's ability to recall and implement taught breakaway techniques in potentially life-threatening scenarios was very poor (14%) and compared very unfavourably with results from an audit of breakaway training at the Caswell Regional Secure Unit (60% success rate) reported in Rogers *et al.* (2006). Fortunately, in the current study 80% of staff were able to break away from simulated holds, although they did not use the taught techniques to do so.

More staff at St Andrew's Hospital reported having used breakaway in a clinical situation within the past 12 months than did staff at the Caswell clinic (21% at St Andrew's compared with 0% at the Caswell). Participants were requested to provide descriptive accounts of their use of breakaway but, unfortunately, there was insufficient information to draw any conclusions. Differences between the two study settings could account for the difference in breakaway use. The Caswell Clinic is a medium-secure unit

for adults, while the services at St Andrew's are provided for a much more heterogeneous group, including older adults, adolescents and brain-injured patients.

How can the relatively poor performance in this study be explained? A number of differences between study settings, training programmes taught within the study settings and study design could go some way to explaining the contrast. In the Caswell audit only nursing staff (nurses and healthcare assistants) were recruited, while the current study also recruited non-nursing clinicians (occupational therapists, psychiatrists and psychologists) and non-clinicians. However, the performance of nursing and non-nursing staff was broadly similar and neither group approached the success rate of nurses at the Caswell. The profession of participants does not, therefore, appear to be the major determinant of recollection and implementation of breakaway skills. Recruitment bias should also be considered as a confounding factor. The audit study at the Caswell was undertaken over several months and while recruitment was not random approximately 50% of nursing staff were sampled. In the current study, data were collected over four day-long sessions; 147 staff were sampled from a total population of about 2000. It is therefore possible that there was systematic bias in the current study sample. However, the most likely effect of this is that those who were less confident about their abilities simply avoided recruitment into the study. If this were true, results would actually be an inflation of the true proportion of staff able to implement taught techniques. Different 'holds' to those included in the study at the Caswell were audited in the current study. In addition, one of the holds audited (bar neck lock) does not end with escape, but with the 'pit' (security alarm) having been pulled. However, staff did not perform significantly worse on this hold than on any others, and the type of hold audited does not appear to be the most significant element in accounting for the results of the audit.

There was no statistically significant difference in successful outcome between those staff who had been trained very recently (past 3 months), compared with those who



had been trained more than 3 months but less than 1 year ago. This suggests that simply increasing the regularity of breakaway training will not necessarily enhance recall and performance.

Differences between breakaway training taught by staff at St Andrew's and the Caswell are likely to contribute to the results of the audit. Annual breakaway training refreshers at the Caswell last for 2 days and are conducted by registered nurses. In the current study setting, annual refreshers last for 2 h and are conducted by especially employed conflict management advisors, who are not registered nurses. The effectiveness of breakaway training in this study setting must therefore be seriously questioned, and the implications for the national policy agenda addressed.

Rogers *et al.* (2006) concluded similarly that the effectiveness of breakaway training must be questioned, and have indicated in subsequent work that one of the main causes of the ineffectiveness of breakaway training is the complexity and sheer number of different techniques that are taught (Rogers *et al.* 2007). As a result of the current study, a local review of breakaway training programmes is being conducted. The conflict management tutor team is reviewing the number of techniques taught, the manner in which they are taught, the ways in which people learn and the theoretical components of the training programme. An analysis of training needs with reference to personal safety and breakaway training is planned using a model developed by Kidd & Stark (1995). This will help inform appropriate levels of training across different clinical and non-clinical roles. A further audit of breakaway training is planned following these changes; clearly the current study provides a baseline against which to measure.

At national policy level, the findings of this audit appear to reinforce the points raised by Rogers *et al.* (2006) that recall of training is variable. This raises the question of whether breakaway training is fit for purpose in its current form. There needs to be a thorough examination of these issues, particularly in view of the financial costs and personal safety implications. For the future, there is a need for a consistent, evidence-based training programme delivered by accredited trainers. As identified in the introduction, the theoretical basis for this is well established through the Promoting Safer and Therapeutic Services Syllabus (NHS Security Management Service, 2005); however, there remains no national syllabus for physical intervention skills training. Development of an evidence-based national programme should be a key priority. There is some emerging evidence that the evidence base of motor learning in sports science could be developed to inform breakaway training (Benson *et al.* 2008).

## Study limitations

The technique of using simulated scenarios of life-threatening situations clearly has limited ecological validity. While the scenarios reflect potential real-life situations, in reality the audit team do not make every effort to maintain their hold on participants at all costs as this would be dangerous. In addition, we only audited implementation of techniques taught in the study setting and it is possible that participants implemented techniques taught elsewhere. The artificiality of the audit scenarios could also affect the ability of participants to recall the taught techniques. Perhaps, more plausibly, in the heightened state of arousal caused by a real assault people would use any techniques that seemed to work at the time. Our finding that 80% of participants managed to break away successfully without using the taught techniques does give some credence to this, suggesting that breakaway methods that centre on natural instinct as opposed to highly technical manoeuvres are likely to be recalled more successfully.

The priorities for future research and audit evaluation have already been well established (Rogers *et al.* 2007), and this study reinforces this agenda. Specifically, epidemiological data are required on the type and frequency of violence faced by staff in mental health settings. Randomized controlled trials are needed to ascertain the effectiveness of varying methods of taught physical skills for use in emergency situations.

Despite the acknowledged limitations, the current study employed a useful audit method that tapped into real skills. There were no managerial/performance-related consequences for participants as the aim was to audit the effectiveness of breakaway training and not individual performance. This probably enhanced participation rate, and made the audit an enjoyable experience. Other skills-related training could potentially be audited using similar techniques. This study provides further evidence that current breakaway training may not equip staff with the skills to remove themselves from potentially serious situations and a policy response at a national level is urgently required.

## References

- Benson R., Allen J., Miller G., *et al.* (2008) Motor skills learning in breakaway training using the evidence base of sports science. In: *Proceedings of the First International Conference on Workplace Violence in the Healthcare Sector* (eds Needham, I., Kingma, M., O'Brien-Pallas, L., *et al.*), p. 336. KAVANAH, Amsterdam, The Netherlands.
- Healthcare Commission (2007a) *National audit of violence 2006–7. Final report – working age adult services*. Royal



- College of Psychiatrists Centre for Quality Improvement. Available at: <http://www.rcpsych.ac.uk/pdf/WAA%20Nat%20Report%20final%20with%20all%20appendices.pdf> (accessed 18 May 2009).
- Healthcare Commission (2007b) *National audit of violence 2006–7. Final report – older people's services*. Royal College of Psychiatrists Centre for Quality Improvement. Available at: <http://www.rcpsych.ac.uk/PDF/OP%20Nat%20Report%20final%20for%20Leads.pdf> (accessed 18 May 2009).
- Kidd B. & Stark C. (eds) (1995) *Management of Violence and Aggression in Health Care*. Gaskell, London.
- National Institute for Clinical Excellence (NICE) (2002) *Principles for best practice in clinical audit*. Available at: <http://www.pdptoolkit.co.uk/Files/adobe%20files/BestPracticeClinicalAudit.pdf> (accessed 1 December 2008).
- National Institute for Clinical Excellence (NICE) (2005). *Violence: The Short-Term Management of Disturbed/ Violent Behaviour in In-patient Psychiatric Settings and Emergency Departments*. NICE, London.
- National Institute for Mental Health in England (NIMHE) (2005) *Health policy implementation guide: developing positive practice to support the safe therapeutic management of aggression and violence in mental health in-patient settings*. Available at: [http://www.positive-options.com/news/downloads/NIMHE\\_-\\_Developing\\_Positive\\_Practice\\_-\\_2004.pdf](http://www.positive-options.com/news/downloads/NIMHE_-_Developing_Positive_Practice_-_2004.pdf) (accessed 1 December 2008).
- NHS Security Management Service (2005) *Promoting safer & therapeutic services*. Available at: [http://62.164.179.2/SecurityManagement/Documents/psts\\_implementing\\_syllabus.pdf](http://62.164.179.2/SecurityManagement/Documents/psts_implementing_syllabus.pdf) (accessed 18 May 2009).
- Nursing and Midwifery Council (2001) *The recognition, prevention & therapeutic management of violence in mental healthcare*. Available at: [http://www.dangerousbehaviour.com/Disturbing\\_News/therapeutic%20management%20of%20violence.pdf](http://www.dangerousbehaviour.com/Disturbing_News/therapeutic%20management%20of%20violence.pdf) (accessed 18 May 2009).
- Parish C. (2007) Research reveals that nurses are not using complex breakaway techniques. *Nursing Standard* 21, 8.
- Rogers P., Ghroum P., Benson R., et al. (2006) Is breakaway training effective? An audit of one medium secure unit. *Journal of Forensic Psychiatry and Psychology* 17, 593–602.
- Rogers P., Miller G., Paterson B., et al. (2007) Is breakaway training effective? Examining the evidence and the reality. *Journal of Mental Health Training, Education and Practice* 2, 5–12.
- Southcott J. & Howard A. (2007) Effectiveness and safety of restraint and breakaway techniques in a psychiatric intensive care unit. *Nursing Standard* 21, 35–41.
- Stubbs B. & Dickens G. (2008) Prevention and management of aggression in mental health: an interdisciplinary discussion. *International Journal of Therapy and Rehabilitation* 15, 351–357.
- Wright S., Sayer J., Par A.M., et al. (2005) Breakaway and physical restraint techniques in acute psychiatric nursing: results from a national survey of training and practice. *The Journal of Forensic Psychiatry and Psychology* 16, 380–398.

## Appendix I Example of audit tool

### Breakaway Audit

Rater: A / B

Hold: Straight arm strangle from the front

1.	Adopt a sideways stance	Yes / No
2.	Chin down, shoulders raised	Yes / No
3.	Arms straight out at shoulder height, fists clenched	Yes / No
4.	Dip away from exit for added momentum	Yes / No
5.	Bring arm over keeping it straight And close to ear	Yes / No
6.	Make your exit	Yes / No
Completed within 10 seconds		Yes / No



## Physical assault by patients against physiotherapists working in mental health settings

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### Abstract

**Objectives** There is a lack of empirical research about physical assault by patients against physiotherapists who work in mental health settings. This study aimed to ascertain the lifetime prevalence and 12-month incidence of assault by patients against physiotherapists in UK mental health settings. This research will inform the development of pre- and post-registration training programmes for physiotherapists.

**Design** Postal questionnaire survey.

**Participants** Members of the Chartered Society of Physiotherapists' special interest group for physiotherapists working in the field of psychiatry.

**Main outcome measures** Self-reported experience of physical assault by patients. Secondary outcome was self-reported training received to manage violent and aggressive patients.

**Results** Questionnaires were returned by 116/178 (65%) special interest group members. Fifty-one percent (59/116) reported that they had been assaulted at work during their career, and 24% (28/116) had been assaulted by a patient in the previous 12 months. Physiotherapists in mental health settings appear to be at greater risk of assault by patients than other non-nursing clinicians.

**Conclusions** Physiotherapists who work in mental health are at similar risk of physical assault by patients as their nursing colleagues, who are required by the UK Nursing and Midwifery Council to receive education and training in the prevention and management of aggression and violence in their pre-registration training. The authors recommend that appropriate training should be included in pre-registration programmes for physiotherapists.

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**Keywords:** Violence; Aggression; Assaultative behaviour; Assault; Physiotherapy; Survey

### Introduction

Reports of violence against healthcare staff in the UK are common, with over 55 000 physical assaults reported in 2006–2007 [1]. Violence against staff is particularly problematic in mental health services, where it is estimated that there are more than two and a half times the number of aggressive incidents than in other healthcare settings [2]. Aggression of any nature, including verbal aggression, may impact negatively on health [3], but one particularly disturbing manifestation is physical assault: 'being hit, struck with an object, shaken, pushed, throttled etc.' [4]. Assault can have a detrimental effect on the physical, psychological and spiri-

tual well-being of the victim who may, in some cases, develop post-traumatic-stress-type symptoms that are more debilitating than the physical sequelae of assault [5]. In addition, violent incidents make the working environment unpleasant, and may ultimately impact negatively on the delivery of patient care [6].

Aggression against staff who work in mental health settings has received attention and subsequent debate in both the nursing [7,8] and medical literature [4,9]. Recognising a need to address the problem, the UK Nursing and Midwifery Council [10] recommended that pre-registration nursing students should be prepared with theoretical knowledge and training about the identification and management of potentially violent scenarios. However, there has been little emphasis on allied healthcare professionals, including physiotherapists, who work in the specialty. This may help to explain why

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the respective governing bodies for allied healthcare professionals have been slow to adapt undergraduate training programmes to routinely include content on the prevention and management of aggression and violence [11].

## Literature review

A search of the worldwide literature for empirical studies of violence and aggression against physiotherapists who work in mental health settings was conducted using MEDLINE (1950–2008), EMBASE (1980–2008), CINAHL (1981–2008), PsycINFO (1806–2008), AMED (1985–2008) and PeDro (1929–2008) databases. Terms used were ‘physiotherapist’ or ‘physical therapist’, ‘aggression’, ‘violence’, ‘assault’, ‘attack’, ‘psychiatric’ and ‘mental illness’. The search did not identify any studies based solely on physiotherapists who work in mental health settings. The following review therefore draws upon studies of physiotherapists who work in general medical settings, and also on studies of wider staff groups who work in mental health settings.

In the UK, the Healthcare Commission [12,13] in its recent national audit of violence in psychiatric settings reported a prevalence of physical assault among all non-nursing clinical staff of 13% and 20% in working-age adult settings and older adult settings, respectively. Prevalence rates of physical assault reported by nurses were 46% and 64%, respectively. The UK Chartered Society of Physiotherapy [14] surveyed 10% of its total membership ( $n=1202$ , including 40 who were employed in mental health care) to establish the prevalence of assault across all work settings. Results indicated that 22% of respondents had experienced an ‘occasional’ physical assault from a patient, and a further 1% had been assaulted ‘regularly’. As a result of any assault, 7% of respondents had sustained an injury. A study by Whittington *et al.* [15] established that 17% (5/29) of physiotherapists employed in a general medical hospital had been assaulted. More recently, and again in a general hospital setting, Winstanley and Whittington [16] reported that the risk of patient assault in the year prior to their study of allied health professionals (including physiotherapists, occupational therapists and radiographers) was 23% (based on a sample of 39 allied health professionals) compared with 27% for all survey respondents ( $n=375$  clinical staff). Guidon *et al.* [17] surveyed 70 physiotherapists working in a community setting in Ireland. They reported that 10 (14%) physiotherapists had been assaulted, one had sustained an injury (1%), and none of the subjects had to take any time away from clinical duties as a result.

## Aims

One of the current authors (BS) has previously hypothesised that physiotherapists may be at particular risk of aggression as they work in close physical proximity to patients, and actively encourage and motivate patients to

undertake tasks that are often challenging and physically tiring [18]. Moreover, mental health clinicians are two and a half times more likely to be assaulted by a patient than those who work in general medical settings [2]. Previous studies of aggression against physiotherapists appear to have offered insufficient data about those employed in mental health settings. The current study aimed to address this imbalance by surveying practitioners who work in mental health care in order to inform the preparation of future generations of physiotherapists in the recognition, prevention and management of aggressive behaviour.

## Methods

### *Design and instrumentation*

A survey design was employed to ascertain 12-month incidence and career prevalence of assault against physiotherapists who work with mental health patients. Approval to conduct the study was obtained from Leicestershire, Northamptonshire & Rutland Research Ethics Committee 2. A questionnaire was designed from the literature review, and a pilot study was conducted with a sample of 12 occupational therapists from the authors’ hospital in order to ascertain face validity and ease of use. Adaptations to the questionnaire were made as a result of feedback at the pilot stage. The term ‘assault’ was operationalised by using a definition from the literature for clarity as ‘being hit, struck with an object, shaken, pushed, throttled etc.’ [4]. Respondents were specifically informed that verbal threats or verbal aggression were to be excluded. Questionnaires contained closed questions about demographics, incidence and prevalence of assault, and also requested further free-text elaboration where relevant. Questions to elicit an indication of assault severity (e.g. about injuries sustained and time off work as a result of assault) and to gather information about training received to manage aggression and violence at work were also included. A copy of the full questionnaire is available from the corresponding author on request. The survey instrument did not request any individual identifying details of participants and was unmarked; therefore, returned questionnaires were anonymous. It was therefore not possible to send out individual follow-up requests to non-respondents.

### *Participants*

The Chartered Physiotherapists in Mental Healthcare is a group of physiotherapists who have a special interest in mental health. Members work in a variety of mental health settings and meet regularly to pursue continuing professional development. In addition, the Chartered Physiotherapists in Mental Healthcare aim to promote the role of the physiotherapist in mental health care. Membership details are held on a central database.



Procedure

The survey questionnaire was posted to all 204 members of the special interest group on the database. An e-mail reminder was sent to all members after 2 weeks to encourage maximum response. Responses from returned questionnaires were entered into Statistical Package for the Social Sciences Version 16.0.1 (SPSS Inc., Chicago, IL, USA) for analysis. For percentages, all results were rounded to the nearest integer. For comparisons of assault frequency between subgroups, Pearson’s Chi-square test with Yates’ continuity correction was utilised, and Fisher’s exact test was employed where expected cell frequency was low.

Results

In total, 204 survey questionnaires were sent out: seven of these were returned uncompleted as the respondents had retired, eight because respondents said they were no longer working in mental health, and 11 were ‘not known at this address’. Thus, there was a total sampling frame of 178 participants; 116 valid, completed questionnaires were received (response rate 65%).

Demographic and work experience characteristics of respondents

These characteristics are outlined in Table 1. Respondents were drawn from a range of work settings (inpatient, outpatient and community), and worked with a range of clients (predominantly people with a mental illness but also those with learning disability or brain injury). Most respondents provided care for working-age adults or older people, but 12 (10%) respondents worked with a patient group predominantly comprising children under 18 years of age. This group

of physiotherapists did not differ significantly from those physiotherapists providing care for working-age or older patient groups on any of the measures of assault incidence or prevalence, injury or psychological harm due to assault, or training received to deal with assault (Table 2).

Prevalence, incidence and severity of assault against physiotherapists in mental health

Fifty-one percent (59/116) of the respondents said that they had been assaulted by a patient at work during their career, and 24% (28/116) said that they had been assaulted by a patient in the past 12 months (range one to 20 assaults). A range of assaults were described in free-text responses by respondents, including ‘being punched in the face’, ‘being thrown across the room’ and ‘being head butted’. One respondent described the ferocity of the attack and reported that ‘if I had not moved my head, I may well have lost some teeth’. Fifteen (13%) respondents reported that they had sustained an injury during the most recent assault, 10 (9%) had received medical attention, six (5%) had had time off work as a result of the assault, and three (3%) had attended an accident and emergency department following the assault. Four (3%) respondents indicated in their free-text responses that an assault by a patient had left them with a permanent disability. Eighteen (16%) respondents reported that they considered themselves to have suffered ‘negative psychological consequences’ as a result of a patient assault.

Setting of assaults

Physiotherapists who work in inpatient settings had a higher incidence of assault in the past 12 months than physiotherapists working in the community or in outpatient settings, but this did not reach statistical significance (27% vs 18%,  $P=0.48$ ). Fifty-nine respondents reported that they had been assaulted by a patient at work during their career, and 34 (58%) of these described the setting of their most recent assault. The majority of assaults described occurred in a scheduled physiotherapy session (21/34, 62%). Most (15/21, 71%) of these occurred whilst the physiotherapist was in close contact facilitating patients or their accessories (e.g. wheelchairs, walking frames).

Clinician experience and assault

There was no statistically significant difference in the incidence of assault over the past 12 months between respondents who had been registered for fewer than 5 years and those who had been registered for 5 years or more (22% vs 25%,  $P=0.91$ ). Band 5 and 6 physiotherapists were no more likely to have been assaulted in the past 12 months than those working at Band 7 (26% vs 26%,  $P=1.0$ ).

Table 1  
Reported demographic and work experience characteristics of respondents (n = 116).

Gender	n (%)	Work setting	n (%)
Male	13 (11)	Inpatient	83 (72)
Female	103 (89)	Outpatient	11 (10)
		Community	22 (19)
Age (years)		Age of current patient group (years)	
21–40	26 (22)	0–17	12 (10)
41–60	79 (68)	18–60	51 (44)
61+	11 (10)	61+	53 (46)
NHS ‘Agenda for Change’ pay band		Client group diagnosis	
5	18 (16)	Mental illness	99 (85)
6	25 (22)	Learning disability	10 (9)
7	54 (47)	Brain injury	4 (3)
Other	19 (16)	Other	3 (3)



Table 2

Incidence, prevalence and outcome of assault, and training received by service user age group.

	Service user age group			
	<18 years	18 to 60 years	>60 years	Total
	<i>n</i> = 12	<i>n</i> = 51	<i>n</i> = 53	<i>n</i> = 116
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
<b>Assault prevalence/incidence</b>				
Assaulted at work during career to date	7 (58)	26 (51)	26 (49)	59 (51)
Assaulted at work during past year	3 (25)	14 (27)	11 (21)	28 (24)
<b>Outcome of most recent assault</b>				
Injury sustained	1 (8)	7 (14)	7 (13)	15 (13)
Medical attention received	0 (0)	6 (12)	4 (8)	10 (9)
Attended hospital accident and emergency department	0 (0)	3 (6)	0 (0)	3 (3)
Psychological support received	2 (17)	5 (10)	4 (8)	11 (9)
Resulted in time off work	0 (0)	5 (10)	1 (2)	6 (5)
Negative psychological sequelae	1 (8)	10 (20)	7 (13)	18 (16)
<b>Training received</b>				
Physical intervention training (career to date)	10 (83)	30 (59)	38 (72)	78 (67)
Physical intervention training (past year)	4 (33)	18 (35)	13 (25)	35 (30)
'Breakaway' training (career to date)	12 (100)	48 (94)	50 (94)	110 (95)
'Breakaway' training (past year)	5 (42)	25 (49)	21 (40)	51 (44)

### *Training received to manage patient aggression and violence*

Most respondents reported that they had attended training courses in physical intervention, and prevention and management of aggression and violence at some point in their career (78/116, 67%), or training to 'breakaway' from life-threatening scenarios (110/116, 95%). Fewer respondents had received training within the past year [prevention and management of aggression and violence 35/116 (30%); 'breakaway' from life-threatening scenarios 51/116 (44%)].

### *Psychological effects of assault*

Respondents were prompted to record any feelings or psychological outcomes as a result of their experience of assault. Eighteen (16%) respondents reported experiencing negative psychological symptoms as a result of assault. One respondent recalled that she felt 'afraid of the patient, I felt like crying ... I did not deserve this'. Another respondent expressed disappointment due to perceived lack of support and empathy from the multidisciplinary team, stating that she was 'surprised and annoyed that nursing and medical staff were unconcerned by the incident'. A number of physiotherapists also reported feeling 'anxious' following the incident; a symptom that has commonly been reported in the research literature [5].

## **Discussion**

The present study found that 51% of physiotherapists in the Chartered Physiotherapists in Mental Healthcare special interest group who responded to this survey reported that they had been assaulted by a patient at work on at least one

occasion in their career. Twenty-four percent of respondents reported that they had been assaulted at least once in the last 12 months (range one to 20 assaults), which suggests that the risk of assault within the next 12 months for a physiotherapist working in mental health is almost one in four. This study indicates that the prevalence of assault among physiotherapists is towards the higher end of reports of assault against healthcare staff in the research literature. For example, reports of assault against nursing staff range from 20% to 66% [8,15], and reports of assault against medical staff range from 12% to 60% [11,19–22]. The prevalence of physical assault against physiotherapists in the current study was therefore comparable with the figures of 46% and 64% reported by nursing colleagues employed in working-age and older people's mental health services, respectively, and far in excess of the 13% and 20% reported by non-nursing clinical staff [12,13]. Physical assaults against physiotherapists in the current study were substantially higher than the figure of 23% reported by the Chartered Society of Physiotherapists [14] for assault against physiotherapy staff across all health settings.

Many mental healthcare professionals will experience some form of violence in their career. Nursing staff are more than three times more likely than non-nursing clinical staff to report that they have been the victim of assault at work [12,13]. One reason may be that they have more contact time with patients than other groups of healthcare professionals [23]. In addition, nurses are involved in a more interactive and intimate relationship with patients, particularly in the acute phase of their illness, and this may also be a factor [23]. The current findings may also reflect the close proximity and the demanding and motivational relationship between physiotherapist and service user. Physiotherapists may be at particular risk of assault as they work at close quarters with patients, often within their personal space, and encourage them to undertake activities that are both physically and men-



tally demanding [18]. In mental health settings, patients may be more likely to misinterpret such challenges. Although the data on setting and circumstances around assault relied on free-text reports and were thus incomplete, there is preliminary evidence that many assaults against physiotherapists occurred during scheduled sessions. Clearly the act of setting physical exercises and tasks for patients during sessions is a skill that develops over time, although the current study found that those with more experience in the mental health field did not report a lower incidence of physical assault over the past 12 months. Among psychiatrists and nurses, it has been demonstrated that staff with the least experience are at higher risk of being the victim of assault [23].

### Study limitations

The present study was a survey of participant experience and it is possible that the results will reflect selective recall. A 65% response rate was acceptable for a single administration survey of this type, and the sample comprises the largest study of the experience of aggression by physiotherapists working with mental health patients described to date in the worldwide literature.

### Summary

The present study found that over half of the respondents have been the victim of assault during their career, and nearly one-quarter have been assaulted by a patient in the past 12 months. Respondents experienced a range of injuries; many were minor but some had left permanent disability. In addition, a wide range of non-somatic consequences were reported and these can be longer lasting and equally debilitating [5]. The authors have previously argued [11] that, in contrast to undergraduate nurse training programmes, time is not spent on physiotherapy training to prepare future generations to recognise and manage violent and aggressive behaviour. Whilst the evidence supporting education and training is not especially strong [11], there may be risk in taking no action. However, the authors do not advocate the introduction of inappropriate, unevidenced training in the physical restraint of patients. The present study confirms that there is a very real risk of assault for physiotherapists who work in mental health care, and the authors are of the opinion that the Chartered Society of Physiotherapists should seek to introduce and evaluate appropriate training.

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**Conflict of interest:** Brendon Stubbs is the Research and Education Officer of the Chartered Physiotherapists in Mental Healthcare special interest group.

### References

- [1] NHS Business Service Authority. Violence against NHS staff continues to fall. 2007. London: NHS Business Service Authority. Available at: <http://www.cfsms.nhs.uk/doc/sms.general/20062007Assault%20stats.pdf> (last accessed 10/08/2008).
- [2] National Audit Office. A safer place to work. Protecting NHS hospital and ambulance staff from violence and aggression. London: The Stationery Office; 2003. Available at: [http://www.nao.org.uk/publications/nao\\_reports/02-03/0203527.pdf](http://www.nao.org.uk/publications/nao_reports/02-03/0203527.pdf) (last accessed 29/08/2008).
- [3] Wykes T. Violence and healthcare professionals. London: Chapman & Hall; 1994.
- [4] Davis S. Assaults and threats on psychiatrists. *Psychiatr Bull* 2001;25:89–91.
- [5] Needham I, Abderhalden C, Halfens RJG, Fischer JE, Dassen T. Non-somatic effects of patient aggression on nurses: a systematic review. *J Adv Nurs* 2005;49:283–96.
- [6] Arnetz JE, Arnetz BB. Violence towards health care staff and possible effects on the quality of patient care. *Soc Sci Med* 2001;52:417–27.
- [7] Maguire J, Ryan D. Aggression and violence in mental health services: categorizing the experiences of Irish nurses. *J Psychiatr Ment Health Nurs* 2007;14:120–7.
- [8] Poster E, Ryan J. At risk of assault. *Nurs Times* 1993;89:30–3.
- [9] Dhumad S, Wijerantne A, Treasaden I. Violence against psychiatrists by patients: survey in a London mental health trust. *Psychiatr Bull* 2007;31:371–4.
- [10] Nursing & Midwifery Council. The recognition, prevention and therapeutic management of violence in mental healthcare. 2001. London: Nursing & Midwifery Council. Available at: <http://www.nmc-uk.org/aDisplayDocument.aspx?DocumentID=664> (last accessed 01/06/2008).
- [11] Stubbs B, Dickens G. Prevention and management of aggression in mental health: an interdisciplinary discussion. *Int J Ther Rehabil* 2008;15:351–6.
- [12] Healthcare Commission. National audit of violence 2006–7. Final report – working age adult services. Royal College of Psychiatrists Centre for Quality Improvement; 2007. London. Available at: <http://www.rcpsych.ac.uk/PDF/removed-WAA%20Nat%20Report%20final%20for%20Leads%2010%2012.pdf> (last accessed 12/06/2008).
- [13] Healthcare Commission. National audit of violence 2006–7. Final report – older people's services. Royal College of Psychiatrists Centre for Quality Improvement; 2007. London. Available at: <http://www.rcpsych.ac.uk/PDF/OP%20Nat%20Report%20final%20for%20Leads.pdf> (last accessed 12/06/2008).
- [14] Chartered Society of Physiotherapy. Violence at Work Survey Results. Health and Safety Information Pack No. 4. London: CSP; 1996.
- [15] Whittington R, Shuttleworth S, Hill L. Violence to staff in a general hospital setting. *J Adv Nurs* 1996;24:326–33.
- [16] Winstanley S, Whittington R. Aggression toward health care staff in a UK general hospital: variation among professions and departments. *J Clin Nurs* 2004;13:3–10.
- [17] Guidon M, Burns R, Magnier A. Prevalence of violence encountered by community physiotherapists in Ireland. *Physiother Ireland* 2005;26:3–6.
- [18] Stubbs B, Winstanley S, Alderman N, Birkett-Swan L. The risk of assault to physiotherapists: beyond zero tolerance? *Physiotherapy* 2009;95:134–9.



- [19] Fottrell E. A study of violent behaviour among patients in psychiatric hospitals. *Br J Psychiatr* 1980;136:216–21.
- [20] Health Service Advisory Committee. Violence to staff in the health services. London: Health & Safety Executive; 1987.
- [21] Madden DJ, Lion JR, Penna MW. Assaults on psychiatrists by patients. *Am J Psychiatr* 1976;133:422–5.
- [22] O'Sullivan M, Meagher D. Assaults on psychiatrists—a three year retrospective study. *Ir J Psychiatr Med* 1998;15:54–7.
- [23] Nolan P, Dallender J, Soares J, Thomsen S, Arnetz B. Violence in mental health care: the experience of mental health nurses and psychiatrists. *J Adv Nurs* 1999;30:934–41.

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# An observational study of medication administration errors in old-age psychiatric inpatients

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## Abstract

**Background.** Relatively little is known about medication administration errors in mental health settings.

**Objective.** To investigate the frequency and nature of medication administration errors in old-age psychiatry. To assess the acceptability of the observational technique to nurse participants.

**Method.** Cross-sectional study technique using (i) direct observation, (ii) medication chart review and (iii) incident reports.

**Setting.** Two elderly long-stay wards in an independent UK psychiatric hospital.

**Participants.** Nine nurses administering medication at routine medication rounds.

**Main outcome measures.** Frequency, type and severity of directly observed medication administration errors compared with errors detected by retrospective chart review and incident reports.

**Results.** Using direct observation 369 errors in 1423 opportunities for errors (25.9%) were detected vs. chart review detected 148 errors and incident reports none. Most errors were of doubtful or minor severity. The pharmacist intervened on four occasions to prevent an error causing patient harm. The commonest errors observed were unauthorized tablet crushing or capsule opening (111/369, 30.1%), omission without a valid reason (100/369, 27.1%) and failure to record administration (87/369, 23.6%). Among the nurses observed, the error rate varied widely from no errors to one error in every two doses administered. Of the seven nurses who completed the post-observation questionnaire, all said they would be willing to be observed again.

**Conclusion.** Medication administration errors are common and mostly minor. Direct observation is a useful, sensitive method for detecting medication administration errors in psychiatry and detects many more errors than chart review or incident reports. The technique appeared to be acceptable to most of the nursing staff that were observed.

**Keywords:** administration, adverse drug events, elderly, medication errors, mental health, observation, psychiatry

Medication errors (prescribing, transcribing, dispensing and administration errors) are an important cause of patient morbidity and mortality [1]. Medication administration errors are a common sub-type of medication errors and accounted for 34% of errors in one large USA study conducted in medical and surgical units [2]. Observational studies in general hospitals have yielded error rates varying between 3.5 and 27% of doses [3–8]. Direct observation detects medication administration errors at a much higher rate than chart review or incident report review [9]. The observational method has been demonstrated to be valid and reliable [10].

Less research on medication errors has been conducted in mental health settings, and little is known about the incidence of medication administration errors in psychiatry

[11]. Medication administration to psychiatric inpatients presents different challenges from that to patients in general hospitals. Psychiatric settings might be expected to pose fewer risks to patients, as parenteral drug administration is uncommon and mainly limited to depot antipsychotics used to treat schizophrenia, intravenous vitamin B for patients with alcohol dependence and intra-muscular antipsychotics and benzodiazepines for rapid tranquillization. Intravenous fluids and blood products are not administered. On the other hand, many psychiatric patients are extremely vulnerable. They may lack mental capacity to give informed consent to medication, may be non-compliant and even violent. The elderly mentally ill are particularly vulnerable as they may be confused, resist

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medication administration, be physically frail and require complex medication regimes.

Review of the literature (by searching Medline, PsycINFO, CINAHL, BNID and AMED from 1966 onwards) revealed only a handful of studies on medication administration errors in psychiatry, with most based on retrospective chart review or official incident reports [12–14]. We were unable to identify any reports of observational studies in psychiatry, apart from a very small study conducted in a learning disability group home [15], a study of tablet crushing in residential homes for the elderly [16] and an observational study of medication administration to psychiatric inpatients but this did not report on the frequency of errors [17]. Concerning studies of older persons conducted in general hospitals, we identified an observational study partly conducted in a geriatric unit [6] and another conducted in an elderly female ward with acute admissions [4].

The aims of the current study were to use the observational technique in two long-stay old-age psychiatry wards to determine the frequency and nature of medication administration errors, to study factors associated with errors and to compare observed errors with those detected by chart review and incident report. We also wanted to assess if the observational technique was acceptable to participating nurses.

## Methods

### Study setting

The study was approved by the Local Research Ethics Committee. It was conducted at St. Andrew's Hospital, Northampton, a 450-bedded independent charitable hospital providing psychiatric care for patients with a wide range of mental health problems. We studied medication administration on two long-stay wards for elderly mentally ill patients, a 13-bedded unit for patients with dementia and challenging behaviour (Ward A) and a 21-bedded unit for frail elderly patients with dementia (some patients also had schizophrenia) offering nursing home type care (Ward B). We carried out a semi-structured interview with each patient's consultant psychiatrist to obtain an ICD-10 clinical diagnosis [18] and details of the patient's disabilities.

### Medication administration

Prescriptions are written on a paper medication chart. It is hospital policy that each time a medication is administered the administering nurse signs the medication chart. If the nurse is not able to administer the medication, they should record an omission code e.g. 'A' if the patient is absent, 'R' if the patient refuses the medication. Medication administration on Wards A and B is undertaken by one nurse, with the assistance of 'runners' who may be nurses or healthcare assistants. The runners take medication to patients who are unable to walk to the medicines trolley. Runners are required to ensure that medication is taken by the patient, i.e. tablets are swallowed.

### Details of how participants were recruited

Nursing staff were given information about the aims of the study and invited to participate. Participants were required to give written consent. At the end of the study, participants were invited to complete a questionnaire on how acceptable or otherwise they had found the experience of being observed.

### Definition and classification of medication administration errors

We defined a medication administration error as 'a deviation from a prescriber's valid prescription or the hospital's policy in relation to drug administration, including failure to correctly record the administration of a medication'. This definition was derived and adapted from the literature [7, 19, 20] and is one that we have used previously [14]. Omission of a drug for valid clinical reason was not counted as an administration error, provided the nurse recorded an appropriate code on the medication chart indicating that the drug was not given.

Administration errors were categorized using the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) taxonomy [21]. Errors were categorized at consensus meetings attended by all three researchers.

### Severity of errors

Error severity was rated on the following five-point scale that two of the researchers had previously used in medication error research [22]:

Grade 1—errors or omissions of doubtful or negligible importance.

Grade 2—errors or omissions likely to result in minor adverse effects or worsening condition.

Grade 3—errors or omissions likely to result in serious effects or relapse.

Grade 4—errors or omissions likely to result in fatality.

Grade X—unratable (due to lack of clinical and other information).

Error severity was agreed by the three researchers at consensus meetings.

### Method of observing medication administration

J.S. (Head Pharmacist) observed medication administration of regular and as required (prn) drugs given at each of the four routine daily drug rounds. Administration of 'prn' drugs and depot preparations given at other times of the day or night was not observed. Details of medications that were administered were recorded on a standard pro-forma data collection sheet. It was agreed beforehand that if the observer witnessed a 'near miss' incident whereby an error was about to be made that was likely to cause patient harm, then she would intervene prior to the medication being administered. For the purposes of the study, such 'near miss' events were counted as errors. After the medication round, J.S. examined each patient's medication chart to check that the correct medication had been



given, to see if any medication had been omitted in error and if any clerical errors had been made.

### Administration errors detected by chart review

A second pharmacist (see Acknowledgement) blind to the results of the observational study carried out a retrospective chart review of the recording of medication administration for those drug rounds that were included in the observational study. She recorded the number and type of errors that she was able to detect by chart review.

### Administration errors reported using the Hospital's medication error reporting system

The Hospital policy is that all medication errors should be reported on an incident form that is sent to and collated by the responsible senior nurse manager. We requested details of the number of administration errors reported for Wards A and B for the 3 months before and the 3 months after the study as well as for the study period.

### Statistical analysis

Data were analysed using SPSS version 14.0 [23]. The  $\chi^2$  test was used to compare differences between variables and whether or not an error had occurred.

## Results

### Patient details

Medication administration to 32 patients was observed. Of these, 20 (63%) had organic brain disease and 12 (38%) schizophrenia. Nineteen (59%) patients had more than one diagnosis. Twenty-one (66%) were unable to give informed consent with respect to medication. Thirteen (41%) had swallowing difficulties, 13 (41%) sometimes refused or spat out medication and 15 (47%) had a history of aggression towards nursing staff.

### Participants and details of medication rounds observed

Nine out of 12 (75%) nurses approached consented to take part in the study. Observations were conducted over a 2-week period in March 2006 on Ward A and in June and July 2006 on the Ward B. On Ward A five medication rounds at 08.00, 12.00, 18.00 and 22.00 h were observed, giving a total of 20 rounds observed, whereas on Ward B, four rounds each at these times were observed, giving a total of 16 rounds.

### Details of medication administered

A total of 1423 opportunities for error were studied (1313 doses were administered, 10 doses were not/could not be

administered for valid clinical reasons and there were 100 omission errors). Most doses were oral (1306; 91.8%). The rest were: topical 59 (4.1%), inhaled 47 (3.3%), ophthalmic 9 (0.6%) and subcutaneous 2 (0.1%).

### Details of error numbers, types and severity detected by direct observation

A total of 369 errors were made out of 1423 doses (25.9%). For 20 (1.4%) doses, two errors were made. The types of error observed are given in Table 1. The commonest error types encountered were crushing tablets without the authorization of the prescriber (28.7%), omission without a valid clinical reason (27.1%), failing to sign the medication chart to record that a drug had been administered (23.6%) and wrong quantity (8.7%). Other types of error were comparatively rare. Concerning the 111 instances where tablets were crushed or capsules opened without authorization, this was specifically contra-indicated by the drugs' manufacturers in seven instances (esomeprazole three doses, digoxin two doses, aminophylline modified release one dose and lansoprazole orodispersible one dose).

**Table 1** Types of medication administration error detected by observation ( $N = 369$ )

Error type	Frequency	Percent of total number of errors	Percent of total number of doses
Crushing tablets without authorization	106	28.7	7.4
Omission without valid reason	100	27.1	7.0
Not signing for an administered medication	87	23.6	6.1
Wrong quantity	32	8.7	2.2
Wrong formulation	14	3.8	1.0
Administration of a prescribing error	9	2.4	0.6
Wrong time	7	1.9	0.5
Wrong drug	6	1.6	0.4
Opening capsules without authorization	5	1.4	0.4
Mixing drug with food without authorization	2	0.5	0.1
Unauthorized extra dose	1	0.3	0.1
<b>Total</b>	<b>369</b>	<b>100</b>	<b>25.9</b>



**Table 2** Severity ratings of medication administration errors ( $N = 369$ )

Severity grade of error	Examples	Medication administration errors $N$ (%)
Grade 1: Errors or omissions of doubtful or negligible importance	Lactulose 20 ml administered—30 ml prescribed. Pericyazine 2.5 mg administered at the wrong time.	255 (69.1)
Grade 2: Errors or omissions likely to result in minor adverse effects or worsening of condition	Sinemet 110 administered at the wrong time. Carbamazepine 200 mg administered—400 mg prescribed	27 (7.3)
Grade 3: Errors or omissions likely to result in serious effects or relapse	Insulin omitted but the nurse recorded administration on the medication chart.	1 (0.3)
Grade 4: Errors or omissions likely to result in fatality		0 (0)
Grade X: Unrateable	Medication was observed to be correctly administered but the nurse failed to record administration on the medication chart.	86 (23.3)

The severity ratings of the errors detected are given in Table 2. More than two-thirds of errors were of doubtful or negligible significance (Grade 1). Only one error was rated as likely to result in serious effects or relapse. For nearly a quarter of errors, potential severity could not be rated. This was mainly because a nurse had been observed to have correctly administered a dose of medication but had then failed to sign the medication chart. It was therefore possible, but not certain, that another nurse might then have administered a duplicate dose. The pharmacist observer intervened on four occasions to prevent patient harm (two wrong drug

errors, one wrong dose error and one omission error). Analysis of the more severe errors (Grade 2 and 3) showed the commonest error types were omission ( $N = 13$ ) (e.g. insulin, sodium valproate and carbamazepine), wrong drug ( $N = 6$ ) (e.g. propranolol given instead of trazodone, quetiapine given instead of olanzapine) and unauthorized crushing ( $N = 5$ ) (e.g. aminophylline modified-release).

### Factors associated with errors

Proportionally fewer errors were made at the 22.00 h medication round than at other rounds (08.00 h 215 errors out of 694 doses, 31.0%; 12.00 h 50/157, 31.8%; 18.00 h 81/345, 23.5%; 22.00 h 23/227, 10.1%,  $P < 0.0001$ ).

A greater proportion of errors involved non-psychotropic drugs (non-psychotropic errors 258 out of 893 doses (28.9%) vs. psychotropics 111 errors out of 530 doses (20.9%),  $P = 0.001$ ). A greater proportion of errors involved drugs administered by non-oral routes (non-oral routes, 70 errors in 118 doses (59.3%) vs. oral route, 299 errors in 1305 doses (22.9%),  $P < 0.0001$ ). Of the 59 doses of topical preparations prescribed, there were 58 errors. In 57 instances, the error involved was omission of a topical preparation without a valid clinical reason. When topical creams and lotions were excluded from the analysis, the difference between errors involving the oral and non-oral routes disappeared.

Errors were more often associated with patients with a diagnosis of organic brain disease than those with functional mental illnesses (253/829, 30.5% vs. 116/594, 19.5%;  $P < 0.0001$ ) and with those who lacked capacity to consent to medication administration than those with capacity (272/913, 29.8% vs. 97/510, 19.0%;  $P < 0.0001$ ). Medication errors were also more often associated with patients with swallowing difficulties than those without (179/480, 37.3% vs. 190/943, 20.1%;  $P < 0.0001$ ) and with those who were known to regularly spit out or refuse medication than with those who did not (169/540, 31.3% vs. 200/883, 22.7%;  $P < 0.0001$ ). After excluding those doses of medication where tablets were crushed or capsules opened, errors were still more often associated with patients with swallowing difficulties (110/377, 29.2% vs. 117/780, 15%;  $P < 0.0001$ ) but not with the other patient characteristics.

Among the nurses observed, the error ratio (number of errors made per total doses observed) varied widely from no errors made to one error in every 2.0 doses administered ( $P < 0.0001$ ). The median error rate was one error in every 6.4 doses administered.

### Errors detected by chart review

The independent pharmacist who reviewed the medication charts detected 148 administration errors. The types of errors detected were as follows: 133 omissions, 9 unauthorized extra doses, 5 wrong times and 1 administration of a discontinued item. All errors detected by chart review were detected by direct observation but of the 133 omissions detected by chart review, direct observation demonstrated



that 33 of the 133 omissions were in fact clerical errors (the nurse had correctly administered the medication but then failed to record administration on the medication chart).

### **Errors reported using the Hospital's medication error reporting system**

During the period of the observational study no administration errors on Wards A or B were reported using the Hospital's medication error reporting system. No errors were reported in the 3 months before and only one error in the 3 months after the study.

### **Acceptability of the observational technique reported by participants**

Seven (78%) of the nine participants completed the post-observation questionnaire. Five out of seven (71%) thought the observational procedure was well explained prior to commencement. None rated the experience of being observed as unpleasant. Two (29%) reported that they felt being observed made it more likely for them to make an error. All seven said they would be willing to be observed while administering medication in the future.

## **Discussion**

In this observational study of medication administration to elderly long-stay psychiatric inpatients, errors were very common, occurring in one in four doses. Most errors were not serious and no patient suffered observable harm as a result of errors, although the pharmacist intervened on four occasions to prevent patient harm. The commonest types of error were unauthorized crushing of tablets or opening capsules, omission of medication and failing to sign for medication. More errors were associated with patients with swallowing difficulties, even after crushed doses of medication were excluded from the analysis. The reason for this association is not clear. The error rate varied widely between the nine nurse participants. The observational study detected two and a half times the number of errors than did retrospective review of the medication charts, whereas none of the errors detected during the observational study were reported using the hospital's incident report system. In addition, some errors misclassified as unauthorized omissions by chart review were shown by the observational study to be failures to sign for administered doses.

The observational technique appeared acceptable to most of the participating nurses. All who completed the post-observation questionnaire stated they would be willing to be observed administering medication in the future, although two reported they felt that being observed made them more prone to make errors. The pharmacist observer had to stand very close to the administering nurse in order to accurately record medicines administration and some nurses commented that this was intrusive. However, an observational study conducted in a general hospital reported no evidence that

the technique made nurses more or less likely to make errors [10]. The participating nurses were aware of the aims of the study and it is possible that this knowledge may have affected their behaviour. The fact that observation was not disguised could have resulted in greater vigilance. Equally, it could have made some nurses anxious and inattentive and thus more prone to make errors.

Compared with observational studies conducted in general hospital settings, our study detected a similar proportion of errors but fewer potentially serious errors [6, 7]. In psychiatry, few drugs are administered parenterally. However, many of the patients in our study were physically frail requiring medication for physical conditions and all were elderly. Serious and fatal medication administration errors are more common in elderly patients [1]. Medicines administration to our patients was particularly difficult as some were confused and uncooperative, could be aggressive and had swallowing difficulties. On the other hand, the patients in our study were long stay and there was a low turnover of nursing staff. Patients' medication changed little during the study period and yet despite this errors were very common. It would be expected that the error rate on a psychiatric admission ward would be much higher because of the greater turnover of patients and nursing staff and frequent changes to prescriptions. There are a number of possible reasons for the large number of process errors detected in our study. The pharmacist observer noted that medication administration frequently occurred at patients' meal times in noisy and sometimes cramped conditions. Thus, the administering nurse had to contend with many potential distractions as well as being under pressure to complete the medication round as swiftly as possible. The ward atmosphere during the night-time medication round was, by contrast, much quieter and less pressured. At the time the study was conducted, there was no standardized refresher training in safe medication practice for nursing staff.

In our study, the commonest error type was the unauthorized crushing of tablets (and a few instances of opening capsules). Although beyond the scope of this research study, the pharmacist observer found no evidence that unauthorized tablet crushing was being used to covertly administer medication to patients. In some instances, the crushed medication was then mixed with food. However, we could not find reports of this type of error in other observational studies, apart from one conducted in two units in France, one of which was a geriatric unit [6] and another conducted in an elderly acute admission ward [4]. Tablet crushing and capsule opening were observed to be common in an Australian study of units for the elderly [16]. In our study, crushing was done for two main reasons: for patients with swallowing difficulties and for uncooperative patients, but there were also instances of tablets being crushed for no obvious reason. Surveys of nursing and care staff have reported that tablet crushing is common in residential and nursing homes [24], as is the practice of concealing drugs in food and beverages [25]. Crushing tablets alters the bioavailability of some drugs and may have serious consequences for the patient. It may be appropriate but should be



authorized by the prescriber. A pharmacist may be able to recommend a more appropriate dosage form. Since this study was conducted, staff on one of the wards concerned have set up a multidisciplinary medication administration group to review all patients' medication regarding administration problems such as swallowing difficulties. The team includes a pharmacist and a speech and language therapist and aims to ensure medicines are administered in a safe and effective way.

The other common error types we encountered were omission of a medication without a valid clinical reason and failing to sign the medication chart after a medication had been administered. In our study, most of the prescriptions for topical preparations were not being administered. Omission errors have been reported as the commonest type of administration error in observational studies conducted in general hospitals [3–5].

Six wrong drug errors were detected in our study, all rated as being of grade 2 severity (likely to result in minor adverse effects or worsening of the condition). None of these errors involved drugs of similar sounding names or similar packaging. One wrong dose error concerned confusion between two liquid preparations held in bottles of approximately the same size though with different coloured labels. Thus, given that no clear cause for these wrong drug errors was evident, it was not possible to develop strategies to prevent their re-occurrence. Wrong drug errors are an important cause of morbidity and mortality in general hospitals, and in one large USA study, they were the second most common cause of fatal medication errors [1].

Our study has a number of limitations. It took place on two wards of an independent sector hospital, and thus the findings may not apply to the National Health Service or community settings. However, the patients studied were not atypical of those found in nursing homes for the elderly mentally ill, although some exhibited particularly challenging behaviour and had been referred from NHS hospitals for this reason. We studied medicines administration by a relatively small number of nurses and not all nurses approached agreed to participate. These are important limitations, and because of the small number of nurses observed, we were unable to report on whether errors were associated with particular nurse characteristics. A study conducted in a paediatric hospital reported that error rates were higher for student nurses and nurses who did not regularly work on the unit [8]. All the nurses in our study were permanent staff on the wards concerned.

## Conclusion

The observational technique can usefully be applied in psychiatry, although informed consent must be obtained from nurse participants. Medication administration errors in our study were very common, although fortunately most were not serious. The fact that the error rate varied widely between nurses and also the absence of annual refresher courses in medicines administration at our hospital suggests

some form of regular standardized training might impact on the error rate. We plan to repeat the study at a later date once training has taken place to see if practice has improved. However, a recent systematic review found little research on the efficacy of nursing educational interventions in reducing medication administration errors [26]. In a randomized controlled trial, the use of dedicated medication nurses who had undergone brief review training in safe medication use did not result in a reduction in medication administration errors compared with the control group [27]. The reporting of errors using incident reports needs to be encouraged, although several authors have highlighted the many reasons why staff are reluctant to report errors [28, 29].

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## References

1. Phillips J, Beam S, Brinkner A *et al*. Retrospective analysis of mortalities associated with medication errors. *Am J Health-Syst Pharm* 2001;**58**:1824–9.
2. Bates DW, Cullen DJ, Laird N *et al*. Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE study group. *JAMA* 1995;**274**:29–34.
3. Ridge KW, Jenkins DB, Barber ND. Medication errors during hospital drug rounds. *Qual Health Care* 1995;**4**:240–243.
4. Ho CY, Dean BS, Barber ND. When do medication administration errors happen to hospital patients? *Int J Pharm Pract* 1997;**5**:91–6.
5. Barker KN, McConnell WE. Detecting errors in hospitals. *Am J Hosp Pharm* 1962;**19**:361–9.
6. Tissot E, Cornette C, Limat S *et al*. Observational study of potential risk factors of medication administration errors. *Pharm World Sci* 2003;**25**:264–268.
7. Barker KN, Flynn EA, Pepper GA *et al*. Medication errors observed in 36 health care facilities. *Arch Intern Med* 2002;**162**:1897–1903.
8. Prot S, Fontan JE, Alberti C *et al*. Drug administration errors and their determinants in pediatric in-patients. *Int J Qual Health Care* 2005;**17**:381–9.
9. Flynn EA, Barker KN, Pepper GA *et al*. Comparison of methods for detecting medication errors in 36 hospitals and skilled-nursing facilities. *Arch Int Med* 2003;**163**:2359–67.
10. Dean B, Barber N. Validity and reliability of observational methods for studying medication administration errors. *Am J Health-Syst Pharm* 2001;**58**:54–9.
11. Maidment ID, Lelliott P, Paton C. Medication errors in mental health care: a systematic review. *Qual Saf Health Care* 2006;**15**:409–13.



12. Ito H, Yamazumi S. Common types of medication errors on long-term psychiatric care units. *Int J Qual Health Care* 2003; **15**:207–12.
13. Grasso BC, Genest R, Jordan CW *et al*. Use of chart and record reviews to detect medication errors in a state psychiatric hospital. *Psychiatr Serv* 2003; **54**:677–81.
14. Haw CM, Dickens G, Stubbs J. A review of medication administration errors reported in a large psychiatric hospital in the United Kingdom. *Psychiatr Serv* 2005; **56**:1610–3.
15. Thurtle V. An audit of drug incidents in learning disability group homes. *Br J Community Nurs* 2000; **5**:170–4.
16. Paradiso LM, Roughhead EE, Gilbert AL *et al*. Crushing or altering medications: what's happening in residential aged-care facilities? *Aust J Ageing* 2002; **21**:123–7.
17. Haglund K, Von Essen L, Von Knorring L *et al*. Medication administration in inpatient psychiatric care – get control and leave control. *J Psychiatr Ment Health Nurs* 2004; **11**: 229–34.
18. World Health Organisation. *The ICD-10 Classification of Mental and Behavioural Disorders. Clinical Descriptions and Diagnostic Guidelines*. Geneva: World Health Organisation, 1992.
19. O'Shea E. Factors contributing to medication errors: a literature review. *J Clin Nurs* 1999; **8**:496–504.
20. Taxis K, Barber N. Ethnographic study of incidence and severity of intravenous drug errors. *BMJ* 2003; **326**:684–7.
21. National Coordinating Council for Medication Error Reporting and Prevention: Taxonomy of Medication Errors, 1998. [www.nccmerp.org/pdf/taxo2001-07-31.pdf](http://www.nccmerp.org/pdf/taxo2001-07-31.pdf)
22. Stubbs J, Haw C, Taylor D. Prescribing errors in psychiatry – a multi-centre study. *J Psychopharm* 2006; **20**:553–61.
23. SPSS Inc. (2006) *SPSS Base 14.0 User's Guide*. New Jersey: Prentice Hall.
24. Wright D. Medication administration in nursing homes. *Nurs Stand* 2002; **16**:33–8.
25. Kirkevold O, Engedal K. Concealment of drugs and food in beverages in nursing homes: cross sectional study. *BMJ* 2005; **330**:20–2.
26. Hodgkinson B, Koch S, Nay S *et al*. Strategies to reduce medication errors with reference to older adults. *Int J Evid Based Healthc* 2006; **4**:2–41.
27. Greengold NL, Shane R, Schneider P *et al*. The impact of dedicated medication nurses on the medication administration error rate. *Arch Intern Med* 2003; **163**:2359–67.
28. Wakefield DS, Wakefield BJ, Uden-Holman T *et al*. Perceived barriers in reporting medication administration errors. *Best Pract Benchmark Healthc* 1996; **1**:191–7.
29. McBride-Henry K, Foureur M. Medication administration errors: understanding the issues. *Aust J Adv Nurs* 2006; **23**:33–40.

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## Delegation of medication administration: an exploratory study

**Dickens G *et al*** (2008) Delegation of medication administration: an exploratory study. *Nursing Standard*. 22, 22, 35-40. Date of acceptance: October 30 2007.

### Summary

**Aim** To examine the delegation of medication administration, including the frequency of delegation, whether delegation was to a care worker or a registered nurse (RN) and whether care workers were directly supervised when administering medication.

**Method** Administration of 1,313 medication doses was observed on two inpatient psychiatric wards for older people.

**Results** Administration was delegated by the nurse preparing the medication for four out of every five doses, usually to another registered nurse (78% of delegated doses), but also to care workers (22%). Care workers were more likely to administer medications to confused and aggressive patients than were registered nurses.

**Conclusion** Care workers who undertake delegated medication administration should receive regular training to ensure safety. Nurses remain accountable for delegated medication administration.

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### Keywords

**Administration of medication; Medication; Older patients; Psychiatry**

These keywords are based on the subject headings from the British Nursing Index. This article has been subject to double-blind review. For author and research article guidelines visit the *Nursing Standard* home page at [www.nursing-standard.co.uk](http://www.nursing-standard.co.uk). For related articles visit our online archive and search using the keywords.

errors are common in hospital inpatient care and are thought to harm 1-2% of all patients admitted to general hospitals (Dean Franklin *et al* 2005). Errors can occur at all stages of medicines management, including prescribing and dispensing, but administration is usually done by nurses (Hand and Barber 2000). The delegation of medication administration by nurses to care workers is not considered best practice (CSCI 2006b): 'Some care homes permit a care worker to take medicines to residents when the nurse has prepared them. This is not best practice. Both the Nursing and Midwifery Council (NMC) and Royal Pharmaceutical Society of Great Britain advise that the person who prepares should also administer medicines and sign the record.'

The authors have been informed that the NMC has not published such advice (Caroline Woolrich, representative, NMC Professional Advisory Service, personal correspondence, October 14 2006). Essentially, a nurse can delegate any aspect of care, including medicines administration, to a care worker provided that they are competent to undertake such a task. The NMC *Code of Professional Conduct* (2004) Clause 4.6 states: 'You may be expected to delegate care delivery to others who are not registered nurses or midwives. Such delegation must not compromise existing care but must be directed to meeting the needs and serving the interests of patients and clients. You remain accountable for the appropriateness of the delegation, for ensuring that the person who does the work is able to do it and that adequate supervision or support is provided.'

### Literature review

A literature search was conducted using the CINAHL, BNI, MedLine, PsycINFO and AMED databases. Search terms used were

MEDICINES MANAGEMENT in nursing homes in England has been described as 'grim and chaotic' (Andalo 2006), and the Commission for Social Care Inspection (CSCI) (2006a) has recommended that all care homes urgently review their medicines management policies and practices. Medication



'delegation', 'medicine', 'drug', 'medication', 'administration' and 'care workers'. Studies conducted in healthcare settings that contained empirical data were identified. Abstracts were reviewed by the first author (GD) for relevance to the topic area. Five studies were identified, only one of which was undertaken in the UK. The term 'care workers' is used throughout this article to denote unregistered staff, although various terms are used in the literature, including unlicensed assistive personnel, healthcare assistants and unlicensed caregivers.

#### **Frequency of involvement of care workers in medication administration**

A retrospective Swedish study conducted in care homes for older people (Kapborg and Svensson 1999) reported that 95% of care workers had participated in medication administration and 31/68 (46%) medication administration errors reported over a four-year period had been made by care workers. In a nationwide United States (US) study, Reinhard *et al* (2006) surveyed medication administration practice in assisted living facilities for older people and reported that half of the states permitted delegation to care workers.

#### **Types of medication administration delegated to care workers**

Glazer (2002) surveyed 740 US healthcare professionals (including 686 registered nurses (RNs)) and invited respondents to state what medication administration interventions nurses could safely delegate. There was consensus that blood products and epidural drugs must be administered by an RN. Most respondents agreed that creams and ointments (85%), eardrops (74%), inhalants (73%), rectal (72%), vaginal (71%), ocular (69%) and oral (63%) medicines administration could be undertaken by someone other than an RN.

#### **Training given to care workers to undertake medication administration**

Spellbring and Ryan (2003) conducted an evaluation of a 16-hour training programme in medication administration for care workers in assisted living facilities for older people in one US state. Care workers with a high school education were most likely to complete the course successfully. It was reported that an essential part of the programme was to have an RN responsible for verification of training, delegation and monitoring of delegation. Reinhard *et al* (2006) reported that in states where delegation of administration to care workers was allowed, the training they had received to fulfil this role varied widely.

#### **Other involvement of care workers in medication administration**

One UK study (Dickens *et al* 2006) evaluated the impact of using specially trained

care workers in the medication administration process in an inpatient unit for people with a learning disability. Care workers acted as 'checkers', specifically supporting RNs to ensure adherence to the 'five Rs': the right patient receives the right drug, in the right dose, by the right route, at the right time (Cooper 1995). Results suggested a significant reduction in error frequency under the checking system, but there was no delegation of responsibility for actual medication preparation or administration to care workers.

### **Aims and objectives**

The primary aim was to describe the delegation of medication administration, including the frequency of delegation, whether delegation was to a care worker or an RN and whether care workers were directly supervised when administering medication.

Secondary objectives involved exploring the data to determine any systematic differences in the characteristics of patients for whom administration of medication doses was delegated to care workers compared with those delegated for administration to an RN or administered by the RN who prepared them. Specifically, the aim was to explore whether the doses delegated to care workers proportionally over or under-represented patients without capacity to consent to treatment, with swallowing difficulties (dysphagia), with a history of spitting out or refusing medications, who were confused or disorientated, who had impaired mobility or who were aggressive to nursing staff.

The study also formed part of an investigation into medication administration errors (Haw *et al* 2007). Further objectives therefore included investigation of whether delegated doses were more prone to error than non-delegated doses, and whether doses delegated for administration to care workers were more prone to error than those delegated for administration to an RN. Finally, given the exploratory nature of this study the aim was to use the results to calculate the required sample size of observations to detect any such differences in a future study. The study was conducted between March and August 2006.

### **Method**

Observational methods were used to study the delegation of medication administration during routine medicine rounds.

The study took place on two wards, here called ward A and ward B, of a UK independent sector psychiatric hospital. Ward A was a 13-bed, mixed-sex, locked ward for older people with dementia and challenging behaviour. Ward B was a 20-bed, mixed-sex ward for physically frail older adults with enduring mental illness.



including dementia, and offered nursing-home type care. For the purpose of registration with the Healthcare Commission the hospital was classed as a nursing home, but in all other respects constituted a hospital environment.

RNs on the two wards were provided with written information about the study and were asked to participate.

A method was devised to observe medication administration based on previous research (Dean and Barber 2001). The authors spoke with those researchers about the design and amended it accordingly. The authors spent time undertaking 'dummy' medication rounds in a simulated ward environment before commencing the study and also practised to ensure, for example, that liquid doses were accurately noted.

The second author (JS) observed participants preparing medication for administration. It was noted whether the administration of medication was delegated and, if so, whether this was to an RN or a care worker. The administration of the medication was observed when it occurred in the communal area under observation, but the administrator was not followed to be observed in private areas such as patients' bedrooms. Which doses constituted medication administration errors was ascertained by comparing observations with medication charts following completion of the medication round. This process is described in full in Haw *et al* (2007). Error severity was rated independently by the three authors; where unanimity was not achieved individual cases were discussed and consensus or majority decision then accepted. The authors have previously used this procedure and have described it in detail elsewhere, for example, Haw *et al* (2007). Brief details about each patient's diagnosis, capacity to consent to treatment, swallowing difficulties, medication concordance, mobility, confusion and aggression were gathered from the consultant psychiatrist. Data were entered into SPSS 14.0 for analysis.

## Ethical considerations

Ethical approval to conduct the study was given by the local research ethics committee. Written, informed consent was gained from those who agreed to take part. All other staff were made aware of the study. Potential participants and managers were made aware of the authors' intention to publish results from the study. Issues about confidentiality were addressed in the participant information sheet.

## Results

Nine of the twelve nurses (75%) invited to participate agreed to do so. Thirty six routine

medication rounds were observed, 20 on ward A and 16 on ward B. Five of each of the breakfast, lunch, tea and night-time rounds were observed on ward A and four of each on ward B.

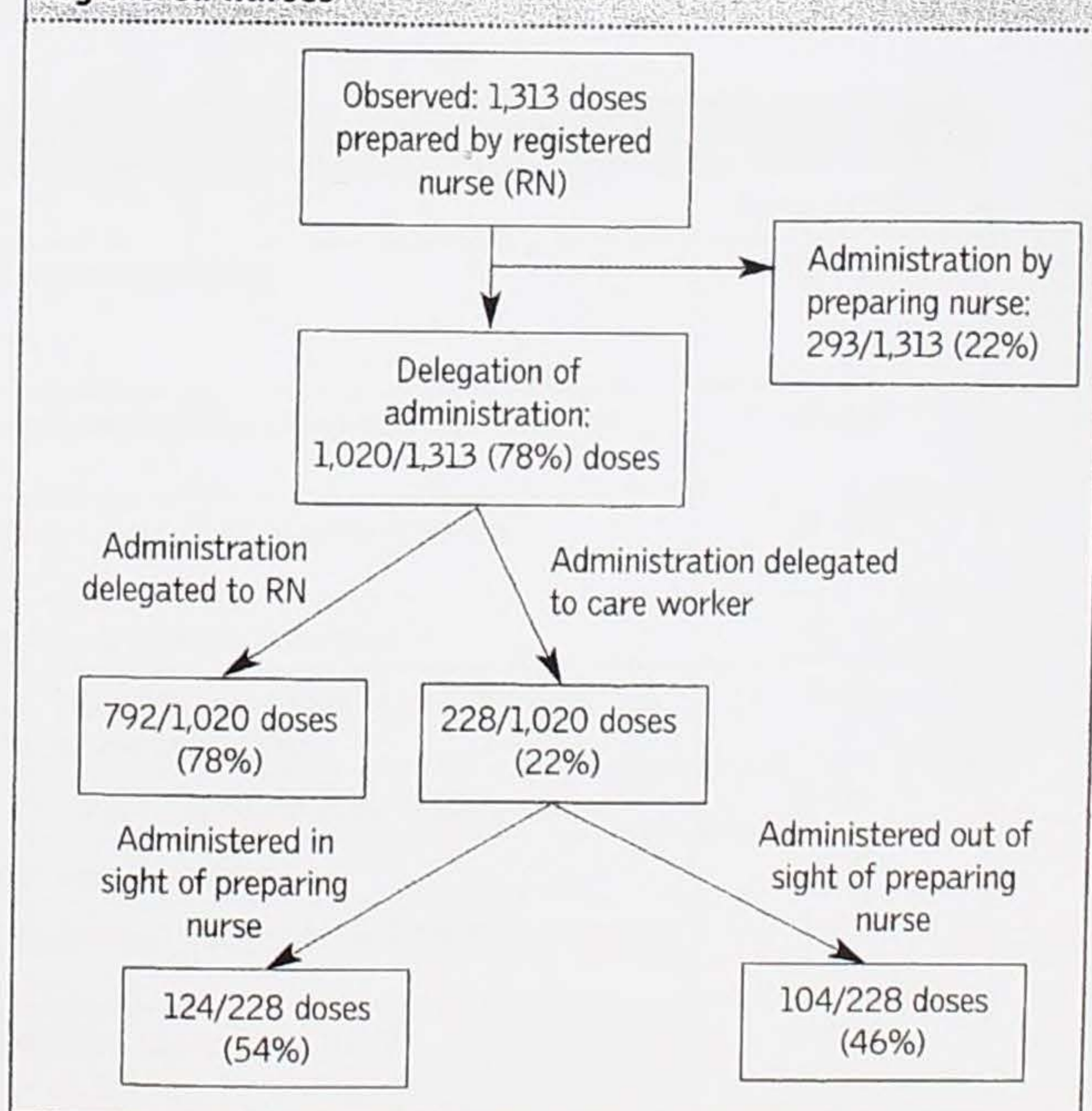
Medication administration to 32 patients was observed. A total of 1,313 medication doses were observed. One hundred and ten omissions of medications were observed but these were excluded from the analysis as there was no opportunity for delegation of these doses.

Medication administration on both wards was undertaken in open ward areas from a lockable trolley. On ward A the trolley was usually situated in the patient's lounge, on ward B it was usually placed in the dining room at meal times. Medication rounds were often noisy and busy occasions. On ward B medication administration and meal times were undertaken together. Medication rounds varied in length, the longest on both wards being the breakfast round which typically took more than an hour. Other rounds lasted between 30 and 60 minutes.

Figure 1 illustrates the delegation of medication administration. All doses were prepared by an RN. Delegation of administration occurred for 1,020 (78%) doses. The nurse who had prepared the medications also administered them for the remaining 293 (22%) doses. When administration was delegated, it was to an RN for 792/1,020 (78%) doses and to a care worker for 228/1,020 (22%) doses. The term 'runner' was used to denote a

**FIGURE 1**

### Delegation of medication administration to care workers and registered nurses





person administering medications who was not the person who had prepared them. The runner was in sight of the nurse who prepared the medication for 645/1,020 (63%) doses and not in the nurse's sight on 375/1,020 (37%) occasions. When the runner was a care worker, he or she was in sight of the preparing nurse for 124/228 (54%) medication doses and out of the nurse's sight for 104/228 (46%) doses. Almost all doses administered (226/228, 99%) by a care worker as runner were by the oral route, with just two (1%) examples of the administration of inhalants. RN runners mostly administered oral medications (765/792, 97%) but also administered ocular (3/792, 0.4%), subcutaneous (1/792, 0.1%) and inhalant (23/792, 3%) medications.

Administration errors were detected in 264/1,313 (20%) doses; there were 269 errors in total as some doses contained more than one error. Error types are summarised in Table 1. The most common error was unauthorised dose form modification (crushing tablets or opening capsules to facilitate administration) and these are described in more detail elsewhere (Stubbs *et al* 2007). Almost all errors (267/269, 99%) could be described as occurring during preparation or recording rather than in final administration. The authors reached consensus that only one (0.4%) of the errors could potentially have led to severe harm (omission of human mixtard insulin) and that the remaining errors (268/269, 99.6%)

were likely to be of negligible or minor clinical significance. Only two errors (0.7%) were detected that could be ascribed to the runner rather than the nurse preparing the medication. Both of these errors constituted medicine (metformin) being mixed into food without the prescriber's authorisation. No errors were detected where a patient was misidentified and given incorrect medication as a result.

Table 2 shows that patients who received medication from care workers were no more likely to lack capacity to consent ( $P = 0.16$ ), to have swallowing difficulties ( $P = 0.09$ ) or a history of spitting out or refusing medication ( $P = 0.55$ ) than patients who received medications from RNs. Patients who received medications from care workers were more likely to be confused ( $P < 0.001$ ) and physically aggressive ( $P < 0.001$ ) towards nursing staff than those who received medications from RNs. Patients with impaired mobility were more likely to receive medications from RNs than from care workers ( $P < 0.001$ ).

Given that the majority of errors (267/269, 99%) occurred during the preparation or recording stage, there were insufficient errors made for meaningful analysis. Similarly it was not possible to test the hypothesis that care workers would be more prone to error than RNs.

Discussion

The observational technique used in this study is effective for detecting medication administration errors and does not affect the error rate (Dean and Barber 2001). However, information about

TABLE 1  
Type, example and frequency of administration errors (n=269)

Error type	Example	Frequency (%)
Crushing tablets or opening capsules without authorisation from the prescriber	Crushing of aminophylline modified-release tablets	111 (41)
Not signing for an administered medication	Failure to sign prescription chart for atorvastatin 20mg although medicines observed to be administered	87 (32)
Wrong quantity	Prescription for 400mg of ibuprofen syrup. 25ml of syrup (strength 100mg/5ml) was administered	32 (12)
Wrong formulation	Administration of metformin tablets when liquid prescribed	14 (5)
Administration of a prescribing error	Co-codamol 8/500 administered. This tablet is available in two strengths, the prescriber did not specify which one was to be given	9 (3)
Wrong time	Sinemet®-110 prescribed for 15.30 hours, administered at 16.50 hours	7 (3)
Wrong drug	Quetiapine 25mg given instead of olanzapine 5mg	6 (2)
Mixing drug with food without authorisation	Metformin liquid mixed with patient's food though not authorised by prescriber	2 (0.7)
Extra dose	Prescribed dose quetiapine 50mg administered 17.00 hours. Extra dose (not prescribed) given at 21.15	1 (0.4)



non-observable processes may be lost. It is also possible that observer effects may manifest themselves in ways other than the error rate. The study setting was a UK independent sector specialist mental health hospital, and this may mean that findings cannot necessarily be generalised to NHS settings or care homes. Administration when a runner had taken medications out of the communal area to a patient in a private area, for example, a bedroom ( $n=375$  doses) was not observed and administration of these doses should be regarded as partially observed. The clinical significance of errors is more important than the statistical significance between occurrence of relatively minor errors and, given that only one error detected rated as severe from 1,313 doses (0.08%), it can be confidently stated that the sample size needed to detect statistically significant differences on serious errors between delegated and non-delegated doses or care worker-delegated doses and RN-delegated doses is almost infinitely large.

The research base provides little evidence to support or refute any specific practices in the important and contentious area of delegation of medication administration. This empirical study found that administration of medications to patients was delegated to someone other than the nurse who had prepared them (a 'runner') for four in every five doses. Delegation of administration to a care worker occurred for more than one in every five doses. Because of the length of time that medication rounds lasted it would have been impracticable for the nurse who prepared medications to always be the person who administered them. On the two wards studied, this practice would have entailed the nurse preparing

medications, locking the trolley, locating the patient, administering medication and then returning to the trolley to record administration. It is estimated that this would have doubled the length of the medication round. The use of runners therefore appeared integral to the conducting of medication rounds. The difficult and demanding process of medication administration on two inpatient wards for older people could not have occurred without using runners.

Errors were common (one in every five doses) but usually negligible or minor in severity. Observational studies commonly find high error rates. Haw *et al* (2007) identified six observational studies in medical and surgical units with error rates ranging from 4% to 34% and the authors do not believe there was anything particularly unusual about this study setting. All but two (99%) errors involving runners occurred during the preparation of medication, for example, crushing or wrong quantity errors, or following administration, for example, clerical errors such as the nurse not signing for medications administered. While the finding of high frequency of unauthorised tablet crushing is unrelated to the central theme of this article (delegation), it is clear that nurses should avoid administering crushed tablets wherever possible. No evidence was found of patient misidentification. These findings suggest two questions:

#### Should runners be used in medication administration?

The guidance that 'the person who prepares should also administer medicines and sign the record' (CSCI 2006b) seems sensible as it reduces the number of transition points within the administration process. However, it will also inevitably increase the already considerable time taken to conduct a medication

**TABLE 2**

#### Care worker and registered nurse (RN) administration of medications and patient characteristics

	Medication doses administered by care worker ( $n = 228$ )	Medication doses administered by RN ( $n = 1085$ )	Statistical test	Odds ratios	95% confidence interval (CI)
Patient lacks capacity to consent to treatment	72 (32%)	396 (36%)	$\chi^2 = 1.987$ , $df=1$ , $P = 0.16$	0.803	0.592-1.090
Patient has swallowing difficulties (dysphagia)	62 (27%)	357 (33%)	$\chi^2 = 2.827$ , $df=1$ , $P = 0.09$	0.762	0.554-1.047
Patient spits out or refuses medication	81 (36%)	408 (38%)	$\chi^2 = 0.348$ , $df=1$ , $P = 0.55$	0.914	0.679-1.231
Patient confused or disorientated	170 (75%)	674 (62%)	$\chi^2 = 12.702$ , $df=1$ , $P < 0.001$	1.773	1.285-2.448
Patient has impaired mobility	97 (43%)	731 (67%)	$\chi^2 = 49.864$ , $df=1$ , $P < 0.001$	0.357	0.267-0.478
Patient physically aggressive to nursing staff	140 (61%)	468 (43%)	$\chi^2 = 25.293$ , $df=1$ , $P < 0.001$	2.090	1.565-2.799



round. On psychiatric units for older people, patients are often mobile, confused and non-concordant. Given the inconclusive nature of the study reported here with regard to error rates, the authors believe it is sensible to use runners appropriately in line with NMC guidance on delegation to ensure that medication is administered safely and effectively.

**Should runners be RNs only?** Error frequency was high (one in every five doses) and this could suggest that the presence of runners, while not causing errors, did little to detect or reduce them. Care workers acting as runners in the study had not had any special preparation for the role. There is some evidence to suggest that double-checking by a second nurse can reduce errors (Kruse *et al* 1992, Jarman *et al* 2002) and that care workers can effectively act as double-checkers (Dickens *et al* 2006). Nurses should receive regular updates and training in medication administration issues. Care workers could, and should, where appropriate, receive training to further their understanding of medication and administration-related issues to better prepare them for the role of runner and/or double-checker. Given that, in the current study, care workers frequently administered medications to the more confused and aggressive

patients, training should cover issues of concordance, negotiation and de-escalation. Future evaluation of such training interventions should be conducted.

## Conclusion

To date there has been little evidence to support nursing practice in respect of the delegation of medication administration. The results of this study found that nurses delegated medication administration frequently, including to care workers. CSCI (2006b) advice that the person who prepares medications should also administer and record them could lead to safety problems in busy psychiatric wards where administration errors may be increased by placing further pressure and potential distractions on one nurse. This study should be replicated in other areas to increase its generalisability **NS**

## IMPLICATIONS FOR PRACTICE

- ▶ Delegation of medication administration to care workers is defensible in psychiatric settings for older people.
- ▶ Nurses remain accountable for their delegation.
- ▶ Care workers who are involved in delegated medication administration should receive education and training to fulfil their role safely.

## References

- Andalo D** (2006) Medicines management in English care homes: a grim and chaotic picture. *The Pharmaceutical Journal*. 276, 7388, 198-199.
- Commission for Social Care Inspection** (2006a) *Handled with Care? Managing Medication for Residents of Care Homes and Children's Homes: A Follow up Study*. [www.csci.org.uk/PDF/handle\\_care.pdf](http://www.csci.org.uk/PDF/handle_care.pdf) (Last accessed: December 17 2007.)
- Commission for Social Care Inspection** (2006b) *Professional Advice: Training Care Workers to Safely Administer Medicines in Care Homes*. [www.csci.org.uk/docs/training\\_care\\_workers\\_medicine.doc](http://www.csci.org.uk/docs/training_care_workers_medicine.doc) (Last accessed: January 9 2008.)
- Cooper MC** (1995) Can a zero defects philosophy be applied to drug errors? *Journal of Advanced Nursing*. 21, 3, 487-491.
- Dean B, Barber N** (2001) Validity and reliability of observational methods for studying medication administration errors. *American Journal of Health-System Pharmacy*. 58, 1, 54-59.
- Dean Franklin B, Vincent C, Schachter M, Barber N** (2005) The incidence of prescribing errors in hospital inpatients: an overview of the research methods. *Drug Safety*. 28, 10, 891-900.
- Dickens G, Doyle C, Calvert J** (2006) Reducing medication administration errors in learning disability nursing. *Nurse Prescribing*. 4, 11, 470-474.
- Glazer G** (2002) Medication administration interventions that must be performed by a registered nurse. *Online Journal of Issues in Nursing*. [http://198.65.150.241/ojin/tpclg/leg\\_12.htm](http://198.65.150.241/ojin/tpclg/leg_12.htm) (Last accessed: January 9 2008.)
- Hand K, Barber N** (2000) Nurses' attitudes and beliefs about medication errors in a UK hospital. *International Journal of Pharmacy Practice*. 8, 2, 128-134.
- Haw C, Stubbs J, Dickens G** (2007) An observational study of medication administration errors in old-age psychiatric inpatients. *International Journal for Quality in Health Care*. 19, 4, 210-216.
- Jarman H, Jacobs E, Zielinski V** (2002) Medication study supports registered nurses' competence for single checking. *International Journal of Nursing Practice*. 8, 6, 330-335.
- Kapborg I, Svensson H** (1999) The nurse's role in drug handling within municipal health and medical care. *Journal of Advanced Nursing*. 30, 4, 950-957.
- Kruse H, Johnson A, O'Connell D, Clarke T** (1992) Administering non-restricted medications in hospital: the implications and cost of using two nurses. *Australian Clinical Review*. 12, 2, 77-83.
- Nursing and Midwifery Council** (2004) *The NMC Code of Professional Conduct: Standards for Conduct, Performance and Ethics*. NMC, London.
- Reinhard SC, Young HM, Kane RA, Quinn WV** (2006) Nurse delegation of medication administration for older adults in assisted living. *Nursing Outlook*. 54, 2, 74-80.
- Spellbring AM, Ryan JW** (2003) Medication administration by unlicensed caregivers: a model program. *Journal of Gerontological Nursing*. 29, 6, 48-54.
- Stubbs J, Haw C, Dickens G** (2007) Dose form modification: a common but potentially hazardous practice. A literature review and study of medication administration to older psychiatric inpatients. *International Psychogeriatrics*. August 22, 1-12, Epub ahead of print.



## **HoNOS-secure: A reliable outcome measure for users of secure and forensic mental health services**

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### **Abstract**

The Health of the Nation Outcome Scales for users of secure and forensic services (HoNOS-secure) comprises amended versions of the original 12 HoNOS items, and an additional seven-item security scale. HoNOS-secure tracks clinical outcome, including ongoing security needs. To investigate the interrater reliability of HoNOS-secure, 60 inpatients were rated independently by two clinicians. There were 34 raters in total. Intraclass correlation coefficients (ICCs) for six of the seven security items indicated at least moderate agreement; one item indicated fair reliability. ICCs for all 12 HoNOS items indicated fair to substantial consistency between raters. Cronbach's alphas were .73 for the security scale and .79 for the HoNOS scale, indicating acceptable internal reliability. The security scale and the HoNOS items were measured consistently by different raters, indicating that HoNOS-secure is a reliable outcome measure when used in routine clinical practice.

**Keywords:** *Outcome measures, secure services, mentally disordered offenders*

### **Introduction**

The most recent available research (Jaycock & Bamber, 2001) reports the number of medium secure mental health beds in the UK to be under 2000. At the time of that research, planned expansions were due to increase this number to over 3000 by 2006. Specialist forensic community mental health teams have also recently emerged (Mohan, Slade, & Fahy, 2004) to complement the existing range of high and low security inpatient provision and prison-based mental health services. Users of all these services commonly have a mental illness and/or personality disorder in conjunction with a history of criminal behaviour (e.g., Coid, Kahtan, Gault, Cook, &

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Jarman, 2001), although this broad definition masks the underlying range of problems and patient characteristics: mental illness including schizophrenia, offending behaviour including violent and sexual crimes, and behavioural disturbance including self-harm and/or co-morbid substance misuse. Despite this increase in the scale and breadth of secure and forensic services in the United Kingdom, there is currently no nationally accepted outcome measure for users of secure services.

The Health of the Nation Outcome Scales (HoNOS) were initially developed for use with individuals with mental health problems in the general population (Bebbington et al., 1999; Wing et al., 1998). HoNOS-secure was originally conceived as HoNOS-MDO (i.e., HoNOS for mentally disordered offenders), supported by the Department of Health and the HoNOS team at the Royal College of Psychiatrists' College Research Unit.

The current version (HoNOS-secure version 2.0) was devised by two of the present authors (PS and LW). Version 1 was qualitatively developed and substantially revised, using consultation and case vignettes in order to establish face and consensual validity. The case vignettes were selected to represent common challenges within the secure setting challenges. HoNOS-secure version 1 was rated by trained clinical staff and areas of rater disagreement were highlighted, allowing a focus on alternative, clearer wording of the scales. This supplemented information obtained from the routine use of HoNOS-secure version 1 at St Andrew's Hospital in Northampton, UK, since 2004. Full versions of scoring sheets and the glossary are available freely online (see <http://www.rcpsych.ac.uk>).

Interrater reliability measures the degree to which two independent raters agree on item scores for individuals. Establishing interrater reliability is 'especially important when measuring devices are new' (Portney & Watkins, 1993, p. 60). The aim of this study, therefore, was to establish whether HoNOS-secure items can claim to have interrater reliability in routine clinical practice.

## Method

### *Setting*

The study took place in three services (secure adult mental health, secure adult learning disability, and secure mental health for older people) with a total of 240 patients at St Andrew's Hospital, Northampton, a charitable sector provider of specialist inpatient mental health care.

### *Materials*

HoNOS-secure consists of a seven-item security scale measuring the need for secure measures (this assesses dangerousness and the need for physical,



relational, and procedural security measures; see Table I), plus the 12 original HoNOS items modified to account for secure settings (see Table III). While HoNOS items are rated retrospectively for observed problem behaviour, the security scales are rated prospectively for the period 'in the near future, including if living unsupported in the community'.

HoNOS-secure is accompanied by a glossary to aid completion. All 19 items are rated on a five-point scale (0 to 4); there is a brief narrative description of each scalar point in the glossary. Ratings are based on the current knowledge of the rater and the clinical team.

### *Procedure*

Care co-ordinators were contacted in the two weeks prior to each patient's quarterly review. The care co-ordinator was asked to nominate another member of the clinical team as a second rater. Raters were instructed to use HoNOS-secure to rate the patient independently. Rating did not involve interviewing the patient. The assessments were made separately by the two raters in the course of routine clinical practice. HoNOS-secure is used as a routine outcome measurement in the study setting, so we did not seek ethical approval. Raters were blind to each others' assessments but had access to the patients' medical notes, including any current risk assessments. We calculated that a sample size of 50 patients would enable us to detect correlations of .41 and above (i.e., at least fair reliability) between raters with 80% power. Data collection occurred over a five-month period in 2005.

### *Raters*

The raters were 34 healthcare professionals employed by the three services, including psychiatrists, psychiatric nurses, psychologists, and occupational therapists. All raters knew the patients well, in their position as responsible medical officer, care programme approach coordinator, or senior qualified nurse. All raters had received training in the use of the HoNOS-secure scales (from LW), and all were familiar with their routine clinical use. No single rater assessed more than six participants.

### *Participants*

All participants were current inpatients in low or medium secure wards in one of the three services included in the study. There were 60 inpatients, all with a mental disorder. Selection was opportunistic, based on the availability of the care co-ordinator and a second rater in the two weeks prior to the patient's quarterly review. There were no exclusion criteria.



*Statistical analysis*

Results were entered into SPSS 14.0 for analysis. Intraclass correlation coefficients (ICC) were calculated: these provide an assessment of interrater reliability by comparing the amount of variation between individual raters with the overall variance. This is the appropriate test to use when multiple raters are involved; it is a measure of reliability equivalent to weighted kappa (Fleiss & Cohen, 1973). Landis and Koch (1977) suggest that the degree of reliability of an instrument is indicated by the following: .21 – .40 = fair, .41 – .60 = moderate, .61 – .80 = substantial, and .81 – 1.00 = almost perfect.

Two further sets of analyses were performed. The 95% confidence interval (CI) for the ICC was calculated, to determine whether pairs of raters agreed at a level which is unlikely to be explicable by chance alone. Additionally, Cronbach's alpha was calculated to indicate the extent to which the two scales measure a single underlying construct (i.e., to assess internal reliability). It is generally accepted that a coefficient of .7 or above indicates acceptable internal reliability (Clark-Carter, 2004).

**Results***Characteristics of the rated patients*

In all, 60 service users were rated by 34 clinicians. There were 45 males and 15 females; 12 patients were cared for in the secure services for older adults, 15 were patients in secure learning disability wards, and 33 were from secure adult mental health wards. The median age was 43 years (range 18–70). Details about index offence were not collected.

*Security scale items*

Table I displays the mean scores for each item on the security scale (range 1.30–2.18). All means lie within a range which reflects the nature of the services in the current study (i.e., low and medium secure facilities). The highest standard deviations were for items A (harm to others) and B (harm to self), suggesting there are quite wide variations between patients in this study on these behaviours. Standard deviations for other items are relatively low, suggesting similar levels of need among participants.

None of the 95% confidence intervals for the ICCs contain zero (see Table II), indicating that rating was consistent between raters at levels significantly greater than chance for all items. Interrater reliability was substantial or better for items A–E, and moderate for item G. The ICC for item F (harm from others) suggests only fair reliability between raters.



Cronbach’s alpha for the security scale was calculated to be .73, indicating acceptable reliability.

HoNOS scale items

Table III displays the mean scores for each HoNOS scale item. Mean scores are generally low (range .07 – 1.47), suggesting that the psychiatric symptomatology of patients in the study is well managed. On the items that most clearly duplicate each other (secure scale item B ‘self-harm’ and HoNOS item 2 ‘non-accidental self-injury’), ratings differed significantly for the same patients, with scores on HoNOS being significantly lower (mean = .33, SD = .63) than scores on the secure scale (mean = 1.46, SD = 1.06,  $df = 119$ ,  $p < .0001$ ), suggesting that the instruction to rate retrospectively observed behaviour on HoNOS scales and ‘near future’ behaviour on the secure scales is understood. Cronbach’s alpha for the 12-item scale was .79, indicating acceptable internal reliability. Scores for alcohol and drugs problems on the 12-item scale were extremely low (mean = .1, SD = .4). Table IV displays the ICC values for HoNOS items. Interrater reliability was moderate to substantial for nine of the 12 items, and fair for the remaining three items.

Table I. Mean (SD) scores on each security scale item (0–4) and total score on the security scale.

Item	Descriptor	Mean (SD)
A	Harm to adults or children	1.97 (1.13)
B	Self-harm (deliberate or accidental)	1.37 (1.13)
C	Need for building security to prevent escape	2.18 (0.65)
D	Need for a safely staffed living environment	1.93 (0.58)
E	Need for escort on leave	1.40 (0.74)
F	Harm from others	1.30 (0.94)
G	Need for risk management procedures	1.68 (0.62)
Total score		11.78 (3.98)

Table II. Intraclass correlation values for all security scale items.

Item	Descriptor	ICC (95% CI)
A	Harm to adults or children	.64 (.46 – .77)
B	Self-harm (deliberate or accidental)	.67 (.53 – .80)
C	Need for building security to prevent escape	.88 (.81 – .93)
D	Need for a safely staffed living environment	.70 (.55 – .81)
E	Need for escort on leave	.88 (.81 – .93)
F	Harm from others	.39 (.15 – .58)
G	Need for risk management procedures	.53 (.32 – .69)



Table III. Mean (SD) scores on each HoNOS item (0–4).

Item	Descriptor	Mean (SD)
1	Antisocial	1.35 (1.14)
2	Self-harm	.33 (.63)
3	Alcohol/drugs	.10 (.40)
4	Cognitive	.98 (1.01)
5	Physical	1.27 (1.23)
6	Psychotic	.85 (1.07)
7	Depression	1.02 (.88)
8	Other	1.33 (1.16)
9	Relationships	1.67 (.98)
10	Activities of daily living	1.68 (1.33)
11	Living conditions	.65 (.68)
12	Occupations and activities	.75 (.87)

Table IV. Intraclass correlation values for HoNOS items.

Item	Descriptor	ICC (95% CI)
1	Antisocial	.89 (.82–.93)
2	Self-harm	.66 (.49–.78)
3	Alcohol/drugs	.96 (.93–.98)
4	Cognitive	.76 (.63–.85)
5	Physical	.65 (.48–.77)
6	Psychotic	.81 (.70–.88)
7	Depression	.29 (.30–.52)
8	Other	.65 (.48–.78)
9	Relationships	.52 (.32–.68)
10	Activities of daily living	.88 (.80–.93)
11	Living conditions	.39 (.16–.59)
12	Occupations and activities	.37 (.13–.57)

Discussion

We aimed to evaluate the interrater reliability of HoNOS-secure by asking pairs of raters to assess participants in the course of routine clinical practice. Intraclass correlation coefficients (ICCs) and 95% confidence intervals suggested that raters agreed at levels significantly above chance on all seven items on the security scale. An ICC of .39 suggested only fair agreement on the security item ‘harm from others’, suggesting that this item is difficult to assess quantitatively. Information about vulnerability or potential for exploitation may be more usefully viewed qualitatively. Security scale item G (‘need for risk management procedures’) was rated moderately consistently but the wide confidence interval (.37) suggests that review of each scalar narrative point may clarify understanding. Items A–E all



showed substantial or better interrater reliability, and on this evidence can be claimed to be reliable measures in routine clinical practice.

ICCs and 95% confidence intervals for all HoNOS items also indicated that raters agreed at levels significantly above chance. Scores for alcohol/drug misuse were extremely low (mean = .10,  $SD = .40$ ): far lower than scores among the patients in acute psychiatric settings in the original HoNOS reliability studies (e.g., Trauer et al., 1999). This suggests that raters in this study scored on the basis of current access to substances in a secure setting rather than the potential for misuse in the community or less restrictive settings. Items 11 ('problems with living conditions') and 12 ('problems with occupations and activities') can be described as having fair consistency. These items were originally developed for community patients and have consistently been the items with lowest interrater reliability in studies of other HoNOS scales (e.g., Trauer et al., 1999); a recent comprehensive review of the reliability and validity of HoNOS scales (Pirkis et al., 2005) identified these items as problematic in multiple studies. Rating of depressed mood also appeared to lack consistency in this study. This is also not new (e.g., Bebbington et al., 1999) and may reflect the low number of psychiatrists with specialist skills in detecting depressive symptoms acting as raters in this study.

### *Study limitations*

The study was undertaken in a single centre, a specialist independent sector hospital, and thus generalization to other settings cannot be assumed. However, the independent sector provides at least a third of medium secure placements (Jaycock & Bamber, 2001), and clinical staff generally have experience of working in various settings including the NHS. Although this was a single-site study, it should be emphasized that participants were drawn from three separately-registered independent hospitals on the same site (secure adult mental health service, secure adult learning disability service, and secure geriatric mental health service), and that users are from many parts of the United Kingdom.

We used a range of professionals as raters, and there is some evidence to suggest that different professions view issues of risk and outcome differently. On the other hand, our study reflected real-life practice in that outcome scales are routinely completed by professionals from varying disciplines. All of our raters had received training in the use of HoNOS-secure, which may have improved reliability, although it has previously been noted that training staff in HoNOS rating may have little value (Brooks, 2000).

### *Implications of the study*

This study of interrater reliability suggests that HoNOS-secure is a promising outcome measure for users of forensic and secure services.



There may be a need to re-examine the security scale item measuring potential for harm from others. We are not currently aware of any assessment tool that claims to measure this construct with both reliability and validity, and its use should be treated cautiously. There is clearly a need to establish further HoNOS-secure's validity through further research, and also to undertake further tests of reliability, including test–retest reliability. Further studies will also need to include users of community forensic mental health services and high secure hospitals. The internal consistency of the scale, as measured by Cronbach's alpha, was acceptable. HoNOS-secure generally proved to be a reliable measure of outcome for users of the three forensic/secure mental health services in this study during the course of routine clinical practice.

## References

- Bebbington, P., Brugha, T., Hill, T., Marsden, L., Window, S., & Browne, C. (1999). Validation of the Health of the Nation Outcome Scales. *British Journal of Psychiatry*, 174, 389–394.
- Brooks, R. (2000). The reliability and validity of the Health of the Nation Outcome Scales: Validation in relation to patient derived measures. *Australian and New Zealand Journal of Psychiatry*, 34, 504–511.
- Clark-Carter, D. (2004). *Quantitative psychological research: A student's handbook*. New York: Psychology Press.
- Coid, J., Kahtan, N., Gault, S., Cook, A., & Jarman, B. (2001). Medium secure forensic psychiatry services: Comparison of seven English health regions. *British Journal of Psychiatry*, 178, 55–61.
- Fleiss, J. L., & Cohen, J. (1973). The equivalence of weighted kappa and the intraclass correlation coefficient as measures of reliability. *Educational and Psychological Measurement*, 33, 613–619.
- Jaycock & Bamber (2001). Mental health services: On the lookout. *Health Service Journal*, 111(5780), 26–27.
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159–174.
- Mohan, R., Slade, M., & Fahy, T. A. (2004). Clinical characteristics of community mental health services. *Psychiatric Services*, 55, 1294–1298.
- Pirkis, J. E., Burgess, P. M., Kirk, P. K., Dodson, S., Coombs, T. J., & Williamson, M. K. (2005). A review of the psychometric properties of the Health of the Nation Outcome Scales (HoNOS) family of measures. *Health and Quality of Life Outcomes*, 3. Retrieved March 27, 2006, from <http://www.hqlo.com/content/3/1/76>
- Portney, L. G., & Watkins, M. P. (1993). *Foundations of clinical research: Applications to practice*. Stamford, CT: Appleton & Lange.
- Trauer, T., Callaly, P., Hantz, P., Little, J., Shields, R., & Smith, J. (1999). Health of the Nation Outcome Scales: Results of the Victorian field trial. *British Journal of Psychiatry*, 174, 380–388.
- Wing, J. K., Beevor, A. S., Curtis, R. H., Park, S. B. G., Hadden, S., & Burns, A. (1998). Health of the Nation Outcome Scales (HoNOS): Research and development. *British Journal of Psychiatry*, 172, 11–18.



# HoNOS-Secure: tracking risk and recovery for men in secure care

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## ABSTRACT

In this study we demonstrate how the Health of the Nation Outcomes Scales for secure and forensic service users (HoNOS-secure) tracks risk and recovery in men with mental illness and men with learning disability in a secure care pathway. Total and individual HoNOS-secure item ratings made by multi-disciplinary teams across the course of a period of admission (mean 15 months) for 180 men were examined. There was significant positive change on the clinical and risk-related scales of HoNOS-secure for patients in the learning disability care pathway ( $N = 48$ ) between initial and final ratings. In the mental health care pathway ( $N = 132$  patients) an apparent lack of change masked a more complex picture, where initial decline in HoNOS-secure ratings was succeeded by significant improvement. Results suggest that it is challenging to measure clinical and risk-related medium-term clinical outcomes objectively for these patients, particularly in relation to core issues of treatment of mental disorder, and reduction of both problem behaviour and risk to others. However, it is important that practitioners continue to strive to demonstrate the benefits of care and treatment through appropriate outcomes measures.

## KEY WORDS

outcomes; HoNOS-secure; mental illness; learning disability

## Introduction

Over the past 20 years clinical outcomes and their management have moved centre-stage as key

indicators of health service performance. Ellwood (1988) challenged service providers routinely to measure and publish their health care outcomes,

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which could, Ellwood argued, be pooled in order to establish treatment effectiveness in real-life settings, rather than treatment efficacy as established in randomised controlled trials with patients who are often highly selected to lack many or all of the complex co-morbidities found in reality. Routine outcomes measurement was also expected to have the potential to facilitate evaluation of the complex social interventions which, alongside pharmacological and psychological therapies, are a characteristic feature of current inpatient mental health services (Holloway, 2002). This paper examines the data generated from routine collection of one outcomes measure – the Health of the Nation Outcome Scale for users of secure and forensic services (HoNOS-secure – see **Box 1**, below) – in a UK independent-sector low and medium secure service for men with mental disorder and/or learning disability. Key questions relate to whether change is detected over time, and whether this change occurs in those domains at which hospitalisation in medium and low-secure services is specifically targeted: mental illness symptomatology, behavioural disturbance and risk to others (DH, 2002, 2007).

### Measuring outcomes with HoNOS

In both the United Kingdom (UK) and Australia, the Health of the Nation Outcome Scales (HoNOS, Wing *et al*, 1998) introduced outcomes measurement to mental health. HoNOS is a 12-item instrument designed for use by practitioners to rate items related to behaviour, impairment, symptoms and social functioning, in order that progress can be recorded. Ellwood's vision of pooled outcomes information has not become reality in the UK mental health sphere. Five years after the mandatory requirement to submit HoNOS results to the Department of Health, data quality is so poor that the results remain unpublished (NHS Information Centre, 2008 p9). There has been more success in Australia, where routine outcomes measurement with HoNOS appears to be more robust (Pirkis *et al*, 2005). Burgess *et al* (2006) reported on 38,351 inpatient and community acute mental health patients across Australia. In general, the HoNOS score improved with time mediated by treatment setting and episode type.

The use of HoNOS as a research outcome measure has had mixed results. In New Zealand,

#### Box 1: HoNOS-secure scales

##### HoNOS-secure items 1 to 12

1. Over-active, aggressive, disruptive or agitated behaviour
2. Non-accidental self-injury
3. Problem drinking or drug-taking
4. Cognitive problems
5. Physical illness or disability problems
6. Problems with hallucinations and delusions
7. Problems with depressed mood
8. Other mental and behavioural problems
9. Problems with relationships
10. Problems with activities of daily living
11. Problems with living conditions
12. Problems with occupations and activities

##### HoNOS-secure Security Scales

- A. Risk of harm to adults or children
- B. Risk of self-harm (deliberate or accidental)
- C. Need of building security to prevent physical escape
- D. Need for a safely staffed living environment
- E. Need for escort on leave (beyond the secure perimeter)
- F. Risk to individual from others
- G. Need for risk management procedures



## HoNOS-Secure: tracking risk and recovery for men in secure care

Turner and colleagues (2009) used HoNOS as one outcome measure in a study of 236 early-intervention psychosis service users, and reported improved scores that they interpreted as reflecting functional recovery over time. Improved HoNOS scores were mirrored on other measures including the Quality of Life Scale and Global Assessment of Functioning (GAF) score. Conversely, in Scotland, a study of 789 people with schizophrenia spectrum disorders (Hunter *et al*, 2009) found that HoNOS scores detected no significant change on the behaviour or symptom sub-scales, improvement on the social functioning sub-scale and decline on the impairment sub-scale. In contrast, statistically significant clinical improvement was detected on all sub-scales of the Avon Mental Health Measure (Avon), suggesting that HoNOS was insufficiently sensitive to meaningful change in this group, particularly in behaviour, symptoms and impairment. Audin and colleagues (2001) reported that there was little change on the majority of HoNOS items in 362 outpatients in a psychotherapy service, and argued that the tool was unsuitable for measuring outcomes in that population.

The original HoNOS was designed for adults of working age and was followed by learning disability (HoNOS-LD), child and adolescent (HoNOSCA) and elderly (HoNOS65+) formats. HoNOS-secure was developed for forensic mental health settings (Sugarman & Walker, 2007; Dickens *et al*, 2007) because parts of the original HoNOS can be hard to interpret in secure settings.

In the UK, forensic mental health services comprise high, medium and low secure inpatient facilities (Rutherford & Duggan, 2007), forensic community mental health teams (Mohan *et al*, 2004) and mental health inreach services in prisons (Brooker & Gojkovic, 2009). The aims of medium-secure forensic services include the reduction of:

*distress associated with mental health problems and their behavioural consequences, with reduction of risk of harm to others (DH, 2007 6).*

Low-secure services:

*deliver intensive, comprehensive, multidisciplinary treatment and care... for patients who demonstrate disturbed behaviour in the context of a serious mental disorder and who require the provision of security (DH, 2002).*

In summary, the core functions of secure or forensic services include treatment of mental disorder, and reduction of behavioural disturbance

and of risk of harm to others; for brevity these are referred to in this paper as core mental disorder, behaviour and risk reduction issues.

Multiple outcomes measures have been used in research studies in secure services (Chambers *et al*, 2009), but outcomes information intended to measure the effect of the whole service, rather than discrete treatment interventions, focuses almost exclusively on recidivism (Maden *et al*, 1999, 2004; Coid *et al*, 2007; Sahota *et al*, 2009; Edwards *et al*, 2002; Buchanan, 1998; Baxter *et al*, 1999), re-admission (Davies *et al*, 2007; Maden *et al*, 1999, 2007; Baxter *et al*, 1999) or mortality (Davies *et al*, 2007; Baxter *et al*, 1999), with little or no data on symptomatology, functioning, quality of life, recovery or perceived risk. With the exception of Edwards *et al* (2002), these studies measure outcome **following discharge from** forensic inpatient services, while just one of the studies (Buchanan, 1998) presents outcomes data for learning-disabled patients. Those detained in the English high secure hospitals under the legal classification 'mental illness' did not differ significantly in terms of reconviction for any offence, over a 10.5-year post-discharge period, from those detained under moderate mental impairment. Long-term outcome in re-admission and recidivism, particularly in terms of violence, is essential. However, service providers and commissioners are increasingly concerned with service effectiveness in the inpatient setting and for other therapeutic outcomes. Given that 47% of forensic inpatients are detained for over five years (Sainsbury Centre for Mental Health, 2007) it is incumbent on service providers and commissioners to achieve and demonstrate service effectiveness beyond recidivism, re-admission and mortality.

This study focused on outcomes for adult males with mental illness or learning disability resident in the low and medium secure care pathways of one independent sector provider. The objectives of the study were to describe clinical and risk-related change across the course of an inpatient admission using the HoNOS-secure. The specific hypotheses of the study were as follows.

- HoNOS-secure will capture significant clinical and risk-related change in a male forensic population over a period of admission. Change should be detected in total scores but, given the aims of hospitalisation, it follows that change should be positive, and should be detectable on individual HoNOS-secure items related to core mental disorder, behaviour and risk reduction issues.



- Reflecting previous research findings for longer-term outcomes, there will be no significant difference in change between those resident in the mental illness and learning disability pathways of the service.

### Method

#### Setting

St Andrew's Healthcare Men's Service is a division of St Andrew's Healthcare, a charity providing specialist secure inpatient mental health care in the UK and operating in the independent sector. The Men's Service caters for adult men between the ages of 18 and 65 in two separate care pathways: one for those with mental illness and a second for those with learning disability. There are 126 beds, 81 in the mental illness care pathway (20 medium secure, 40 low secure and 21 open rehabilitation), and 45 in the learning disability care pathway (17 medium secure and 28 low secure). All patients are funded by the National Health Service (NHS).

#### Participants

The study participants were all the male inpatients ( $N = 180$ ) resident in the service on 1st July 2006 and those who were admitted over the next two years until 30th June 2008. Participant characteristics are presented in **Table 1**, overleaf.

#### Measures

HoNOS-secure contains modified versions of the original 12 HoNOS sub-scales (**Box 1**) that assess behaviour, impairment, symptoms and social problems. In its original form as HoNOS-MDO (mentally disordered offenders) an audit study conducted in five English Regional Secure Units found scores to be highly correlated with concurrently rated scores for HoNOS for working-age adults (Sugarman & Everest, pers. comm.). An additional seven-item 'security scale' aims to track current clinical risk management needs related to harm to self or to others, vulnerability, the built environment and staffing needs (**Box 1**). The security scale is not itself a risk assessment tool; rather it is intended to track risk outcome based on any risk assessments made by the multi-disciplinary clinical team. HoNOS-secure was introduced in the current study setting in 2004 as a routine outcome measure, and is rated regularly for each patient, the data being used both to track outcome for individuals and to power a performance indicator metric indicator of change across patient sub-groups and for the entire cohort (Sugarman *et al*, 2009). Currently, in version 2b, HoNOS-

secure has undergone considerable development based on detailed user feedback. Alongside the other HoNOS family members, HoNOS-secure has been included in the NHS Connecting for Health programme which is aimed at improving patient-related information technology.

HoNOS-secure was selected for regular rating because it is the most relevant HoNOS tool for this group of users of forensic/secure services and because reporting on HoNOS data is mandatory. Both scales of HoNOS-secure have acceptable inter-rater reliability in routine clinical practice (Dickens *et al*, 2007) and can detect clinical change over time when used to calculate a performance metric in patient cohorts (Sugarman *et al*, 2009).

HoNOS-secure is rated by the multi-disciplinary team responsible for the patient's care as part of clinical practice. The rating team will usually comprise professionals from the fields of psychiatry, psychology, psychiatric nursing, occupational therapy and social work. The policy guideline is that:

- each patient is to be rated at three-monthly intervals, commencing at the pre-admission assessment
- rating should be undertaken by the team
- raters have received training.

Each item is rated on a five-point scale (0 to 4), each representing an anchor point with an accompanying narrative description. A score of two or more on the HoNOS-secure items 1 to 12 indicates a treatment need, while a score of one or more on any of the security scales A to G indicates that a risk management intervention is required. As rating is a regular part of clinical practice, raters are not blinded to outcome and are aware that ratings will be used for evaluation purposes.

Other data collected included routinely gathered information for each patient about age, legal status, ethnicity, admission date, security level of ward (medium or low secure), diagnosis and care pathway (learning disability or mental illness) and was collated.

#### Procedure

HoNOS-secure ratings made prospectively by clinical teams during the study period were collated. The baseline rating (b) was the first HoNOS-secure rating following admission or, for patients already resident in the service, the rating current at the commencement of the study period. The final rating (f) was that current at the time of discharge or, for patients remaining in the service, the rating



Table 1: Demographic and clinical details for patients in the mental health and learning disability pathways

	Mental health pathway (N = 132)	Learning disability pathway	Statistical test (N = 48)
Mean age years (s.d.)	40.4 (10.7)	32.3 (9.1)	$t = -4.7$ , $df = 178$ , $p < 0.001$
Length of admission days (s.d.)	1517.4 (1555.4)	961.8 (1072.5)	$t = -2.3$ , $df = 178$ , $p < 0.05$
Ethnicity			
White	92 (69.7%)	38 (79.2%)	$\chi^2 = 1.14$ , $df = 1$ , $p = 0.29^a$
Black	20 (15.2%)	1 (2.1%)	
Asian	12 (9.1%)	2 (1.5%)	
Other	8 (6.1%)	7 (14.6%)	
Legal status (section type)			
Civil	46 (34.8%)	9 (18.8%)	$\chi^2 = 2.06$ , $df = 1$ , $p = 0.15^b$
Criminal	79 (59.8%)	35 (72.9%)	
Informal	7 (5.3%)	4 (8.3%)	
ICD-10 Diagnosis			
F00-F09 Organic	3 (2.3%)	1 (2.1%)	$\chi^2 = 1.97$ , $df = 1$ , $p = 0.16$
F20-F29 Schizophrenia	82 (62.1%)	3 (6.3%)	
F30-F39 Mood	5 (3.8%)	2 (4.2%)	
F60-F69 Personality disorder	10 (7.6%)	2 (4.2%)	
F70-F79 Mental retardation	2 (1.5%)	15 (31.3%)	
F80-F89 Psychological development	0 (0%)	15 (31.3%)	
Not recorded	30 (22.7%)	10 (20.8%)	
Any comorbidity	49 (37.1%)	24 (50.0%)	

<sup>a</sup> White ethnicity versus any other<sup>b</sup> Criminal section versus any other



current at the end of the study period. The rating period was the period from baseline (b) to final (f) rating, and for each patient could vary in length from a possible 0 days (baseline and discharge rating on same day) to a maximum of 1126 days (resident in the service at both study commencement and end dates). Each patient's total rating period in days was then used to establish quartile points, and the appropriate HoNOS-secure rating for each quartile was identified (defined as the current score in the patient's file on the quartile date). For example, if an individual's rating period was 1000 days, then quartile points would be calculated for day 250, day 500 and day 750. This strategy, rather than taking fixed time points, allowed clinical change across the entire inpatient period for each patient to be tracked and directly compared despite varying clinical complexity and lengths of stay (Tables 2, overleaf and 3, page 43). Ratings were routinely collected, and all data was anonymised before analysis. The study was therefore conducted as a service evaluation, and was not subject to ethical review. Data was entered in to SPSS 16.0 (2007) for analysis.

## Results

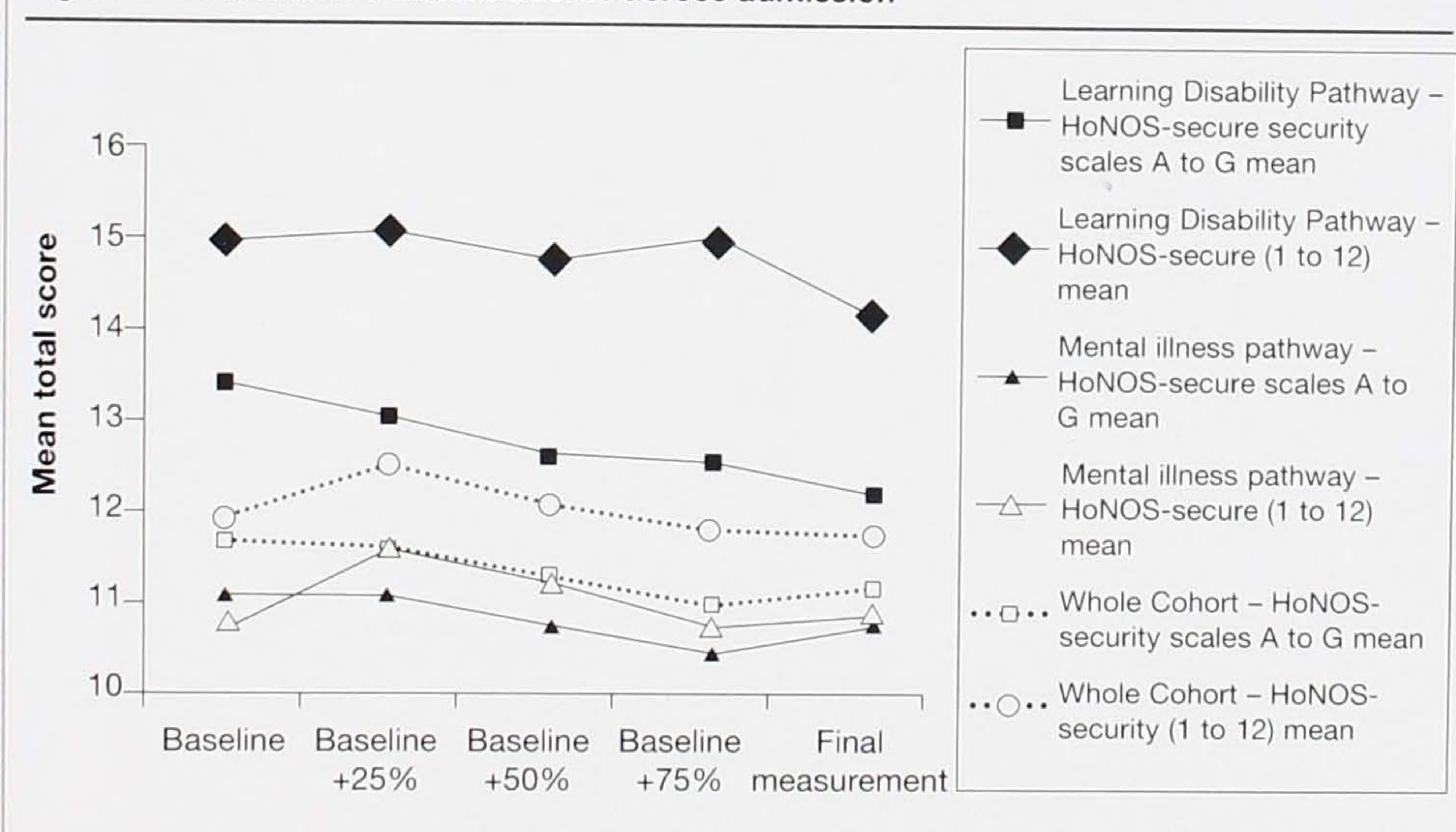
HoNOS-secure ratings were gathered for all (100%) 180 men who were inpatients at study commencement ( $N = 80$ , 44.4%) or who were admitted to the service during the study period ( $N = 100$ , 55.6%).

Demographic and clinical details for patients in the mental health and learning disability pathways are presented in Table 1 (p40).

Service users in the learning disability care pathway ( $N = 48$ ) were generally younger at baseline rating and had shorter admission periods than those resident in the mental illness pathway ( $N = 132$ ). There was no apparent difference in ethnicity, legal status or comorbidity. At baseline, those resident in the learning disability pathway were more clinically impaired as measured on HoNOS-secure items 1–12, and had more risk-related need as measured on security scale items A–G (Figure 1, below).

Table 2, overleaf, shows that significant change for the entire cohort was not demonstrated on the 12-item HoNOS-secure scale, but Table 3, page 43, demonstrates that mean total score on the seven-item security scale fell at levels greater than chance for the entire cohort. One-way repeated measures ANOVA identified significant differences between changes in those resident in the learning disability and those resident in the mental illness care pathways on both scales A to G ( $F = 7.58$ ,  $df = 1$ ,  $p < 0.01$ ) and 1 to 12 ( $F = 15.87$ ,  $df = 1$ ,  $p < 0.001$ ). Figure 1 demonstrates that these differences are due to perceived clinical improvement among those in the learning disability care pathway, but not those in the mental illness care pathway. Examination of total score across the study period (Figure 1) for HoNOS items 1–12 indicates

Figure 1: Mean HoNOS-secure scores across admission





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deterioration in the first part of admission for those resident in the mental illness care pathway. Subsequently, HoNOS-secure 1–12 total score fell from second quartile until final rating (11.7 v 10.9,  $t = 2.01$ ,  $df = 131$ ,  $p < 0.05$ ). The deterioration in HoNOS-secure score from baseline rating to first quartile rating appeared only to extend to existing patients (baseline mean = 11.24 s.d. = 5.84,  $t = -3.88$ ,  $df = 79$ ,  $p < 0.001$ ) and not to new admissions (baseline mean 12.43, s.d. = 6.54 v first quartile mean 12.26, s.d. = 6.41,  $t = 0.59$ ,  $df = 99$ ,  $p = 0.55$ ).

Tables 2 and 3 show details of change between baseline and final HoNOS-secure ratings for the entire cohort on individual items. Only one item score identified as related to core mental disorder, behaviour and risk reduction issues changed positively between baseline and final rating at levels greater than chance: HoNOS-secure item 2 (Non-accidental self-injury). Other items related

to symptomatology (cognitive problems, psychotic symptoms, depression and other mental and behavioural issues), disturbed behaviour (over-active, aggressive or disruptive behaviour) or risk of harm to others (HoNOS-secure security scale item A) did not change at levels greater than chance. One item (other mental or behavioural problems) suggested clinical decline over the study period at a level greater than by chance alone.

### Discussion

The clinical and risk-related outcomes were tracked in 180 men in the low and medium secure mental illness and learning disability pathways at St Andrew's Healthcare, Northampton over the course of admission using routinely collected HoNOS-secure data. We are not aware of any similar studies of routinely collected, patient-orientated outcome measure in secure services. Across the entire cohort,

**Table 2: HoNOS-secure (1 to 12) mean scores at baseline and final measurement**

Item		N	Mean (s.d.)	Paired samples t-test
1. Social behaviour	b	180	1.23 (1.18)	$t = -0.73$ , $df = 179$ , $p = 0.47$
	f		1.28 (1.13)	
2. Self-directed injury	b	180	0.40 (0.82)	$t = 2.67$ , $df = 179$ , $p = 0.01$
	f		0.26 (0.70)	
3. Problem drink/drug use	b	180	0.28 (0.79)	$t = 1.90$ , $df = 179$ , $p = 0.06$
	f		0.18 (0.65)	
4. Cognitive	b	180	1.05 (0.93)	$t = 0.36$ , $df = 179$ , $p = 0.72$
	f		1.03 (0.87)	
5. Physical	b	180	1.01 (1.02)	$t = 0.16$ , $df = 179$ , $p = 0.87$
	f		1.00 (0.93)	
6. Psychotic	b	180	1.00 (0.93)	$t = -0.56$ , $df = 179$ , $p = 0.57$
	f		1.06 (1.08)	
7. Depressive	b	180	0.93 (0.85)	$t = 0.07$ , $df = 179$ , $p = 0.93$
	f		0.92 (0.77)	
8. Other	b	180	1.28 (1.08)	$t = -2.10$ , $df = 179$ , $p = 0.04$
	f		1.46 (1.05)	
9. Relationships	b	180	1.58 (1.09)	$t = -1.57$ , $df = 179$ , $p = 0.12$
	f		1.69 (0.96)	
10. Daily living	b	180	1.34 (1.08)	$t = -0.72$ , $df = 179$ , $p = 0.47$
	f		1.39 (0.99)	
11. Living conditions	b	180	0.77 (0.80)	$t = 0.47$ , $df = 179$ , $p = 0.64$
	f		0.74 (0.69)	
12. Activities	b	180	0.93 (0.93)	$t = 2.80$ , $df = 179$ , $p = 0.01$
	f		0.73 (0.76)	
Total	b	180	11.90 (6.25)	$t = 0.45$ , $df = 179$ , $p = 0.63$
	f		11.74 (5.60)	

b=baseline rating f=final rating



**Table 3: HoNOS-secure security scales A to G mean scores at baseline and final measurement**

Item		N	Mean (sd)	Paired samples t-test
A. Harm to others	b	180	1.91 (1.19)	$t = -1.41, df = 179, p = 0.16$
	f		2.01 (1.14)	
B. Self-harm	b	180	0.98 (1.00)	$t = 1.09, df = 179, p = 0.28$
	f		0.91 (0.97)	
C. Building security	b	180	2.09 (0.80)	$t = 1.28, df = 179, p = 0.20$
	f		2.03 (0.77)	
D. Staffed living environment	b	180	2.09 (0.68)	$t = 1.43, df = 179, p = 0.15$
	f		2.02 (0.59)	
E. Escort on leave	b	180	1.62 (0.87)	$t = 2.98, df = 179, p = 0.00$
	f		1.45 (0.85)	
F. Risk from others	b	180	1.31 (0.87)	$t = 0.83, df = 179, p = 0.41$
	f		1.26 (0.76)	
G. Risk procedures	b	180	1.72 (0.83)	$t = 4.18, df = 179, p = 0.00$
	f		1.47 (0.69)	
Total	b	180	11.73 (4.23)	$t = 2.43, df = 179, p = 0.02$
	f		11.14 (3.83)	

*b = baseline rating, f = final rating*

the mean total HoNOS-secure score on items 1 to 12 did not differ significantly between baseline and final HoNOS rating. This apparent lack of movement between baseline and final ratings for the entire cohort masked a more dynamic and interesting picture. By tracking outcome across the whole study period, we identified that an increase in HoNOS-secure total score – indicating clinical deterioration – during the first quartile of rating in those in the mental illness care pathway may explain this. For this group, HoNOS-secure scores then fell at significant levels in the subsequent period of admission. Statistically significant change was detected on both scales for those in the learning disability pathway across the rating period. A significant change in mean security scale total was detected over the whole rating period time for the entire cohort.

The positive change on both scales for those resident in the learning disability care pathway was mirrored in shorter periods of admission, suggesting that this group is more amenable to treatment in this setting than those resident in the mental illness care pathway. This is in line with the improvements in challenging behaviours seen in a similar group of learning-disabled men in low secure care reported by Reed *et al* (2004). Demographic and clinical differences including age and length of stay may contribute to this apparently more rapid

progression. Longer-term outcome in reconviction for people discharged from the English high security hospitals has previously been found not to differ from rates for people with mental disorder (Buchanan, 1999). The medium-term outcomes reported here, therefore, may not be predictive of longer-term outcome, and further research is clearly required into the relationship between ongoing outcomes and longer-term measures including recidivism, re-admission and mortality.

Increases in HoNOS-secure total score during the first quartile of the admission period could not be explained with reference to a difficult transition period for new patients, because the effect appeared to be present only in the group of existing patients, and not in new admissions to the service. Previous research that indicates increased risk for specific behaviours such as escape (Dolan & Snowden, 1994) or suicide (Bowers *et al*, 2010) in the early part of psychiatric admission was therefore not sign of a broader phenomenon that generalises to the domains measured by HoNOS-secure.

These results suggest that problems still need to be solved with regard to detection and measurement of meaningful change across time for those men who need care in secure mental health pathways. In particular, we found that change was not detected on most of those items that address core treatment of mental disorder and reduction of



both problem behaviour and risk. It is possible that detection of meaningful change is more difficult in men with mental disorder than in those with learning disability. In this study, patients in the learning disability pathway were rated as more impaired on both clinical and risk-related outcomes at baseline than those resident in the mental health pathway. Greater impairment offers greater potential for change and its detection; the sustained improvement in this sub-group may undergo a floor effect as scores become closer to those among patients in the mental health care pathway.

The implication is therefore either that other, more sensitive, measures are required that can tap into subtler gradations of change on key items, or that this group of men with mental disorder resident in secure care are actually a group with highly complex long-term needs and that routine objective clinical and risk-related outcomes measurements will remain problematic. There may be a need for HoNOS-secure to be adapted, for further work to be undertaken on its convergent validity with other measures, or for a new tool to be developed which can tap into service intervention effects in this group.

In relation to the remaining individual HoNOS-secure items, significant change was demonstrated for only a small number of individual items on either scale which, given the lack of overall change, is unsurprising. HoNOS-secure item 3, relating to drug or alcohol misuse, tended to be rated as zero (no problem), and therefore had a very low mean score (0.28 at baseline). We believe that this finding simply reflects the fact that the HoNOS-secure instructs rating of problem behaviour in the past two weeks. Allied with the fact that substance misuse by patients may be concealed or temporarily halted by security measures, this may explain apparent under-reporting. This suggests that outcomes assessment related to substance misuse in forensic settings may have to be supplemented by indirect measures (for example self-efficacy) that correlate with change following treatment (Long & Hollin, 2009).

### Limitations

The data for the study is sourced from HoNOS-secure ratings made by clinical teams during the course of routine clinical work and, while there are policy directives, ratings were not taken at standard intervals and teams were not blinded to outcomes. The length of admission over which ratings were taken also varied widely. Finally, no other clinical measures were routinely collected for

the entire cohort, preventing comparison between HoNOS-secure scores and other indicators of risk or functioning. The group studied was large, and the average length of assessment was nearly 15 months. However, given that there may have been smaller sub-groupings of patients, with different diagnoses, levels of chronicity and symptom acuteness, the overall sample is not necessarily homogeneous, and so sample size may not be large enough to compensate for variations. A future study will attempt to unpack some of these issues by examining scores by sub-groupings. The results do, however, reflect real-life practice, and may be taken as an indication of the difficulties faced by clinical teams in detecting change over admission for users of similar services.

### Outcomes measures for forensic mental health: the future

A recent review identified 450 instruments comprising 1038 distinct variables used as outcomes measures in forensic mental health research published between 1990 and 2006 (Chambers *et al*, 2009). It is claimed that the scales most frequently used measure mental state, relationships, substance misuse or recidivism. Measures proposed or used to support clinical performance indicators in mental health services include use of restraint and seclusion (Thomson *et al*, 2004), and needs assessment measures such as Camberwell Assessment of Need (Phelan *et al*, 1995).

Burns (2008) has previously identified the tensions arising from the desire to use outcomes measures as widely as possible and the often conflicting wish to use only validated tools with established psychometric properties, and only in those service user groups with whom they have been validated. However, Trauer *et al* (2009), reporting results of a survey of attitudes of Australian mental health staff to routine outcomes measurement, including HoNOS, found a wide, but not polarised, spread of opinion about the general usefulness of such tools. Our study further demonstrates that a routine outcomes measure can be implemented across a service, and can usefully supplement other measures such as length of admission, security level of discharge destination (Edwards *et al*, 2002; Maden *et al*, 1999) and violence during admission (Maden *et al*, 1999).

### Implications for practice

- Increasingly, providers of secure services are required by commissioners and regulators to demonstrate the effectiveness of their



services. HoNOS-secure has been developed as an outcomes measure for users of secure and forensic mental health services for use in routine clinical practice.

- Practitioners should endeavour to make thorough and accurate baseline HoNOS-secure ratings in order that any subsequent change can be demonstrated.
- Other outcomes measures should also be routinely used in order to demonstrate the effectiveness of treatment programmes in secure and forensic services.

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### References

- Audin K, Margison F, Mellor-Clark J *et al* (2001) Value of HoNOS in assessing patient change in NHS psychotherapy and psychological treatment services. *British Journal of Psychiatry* **178** 561–6.
- Baxter R, Rabe-Hesketh S & Parrott J (1999) Characteristics, needs and reoffending in a group of patients with schizophrenia formerly treated in medium security. *Journal of Forensic Psychiatry* **10** 69–83.
- Brooker C & Gojkovic D (2009) The second national survey of mental health in-reach services in prisons. *Journal of Forensic Psychiatry and Psychology* **20** (Suppl) 11–28.
- Buchanan A (1998) Criminal conviction after discharge from special (high security) hospital. Incidence in the first 10 years. *British Journal of Psychiatry* **172** 472–6.
- Burgess P, Pirkis J & Coombs T (2006) Do adults in contact with Australia's public health mental health services get better? *Australia and New Zealand Health Policy* **3** (9) doi: 10.1186/1743-8462-3-9. [www.anzhealthpolicy.com/content/pdf/1743-8462-3-9.pdf](http://www.anzhealthpolicy.com/content/pdf/1743-8462-3-9.pdf)
- Chambers J, Yiend J, Barrett B *et al* (2009) Outcome measures used in forensic mental health research: a structured review. *Criminal Behaviour and Mental Health* **19** (1) 9–27.
- Coid J, Hickey N, Kahtan N, Zhang T & Yang M (2007) Patients discharged from medium secure forensic psychiatry service: reconvictions and risk factors. *British Journal of Psychiatry* **190** 223–9.
- Davies S, Clarke M, Hollin C & Duggan C (2007) Long-term outcomes after discharge from medium secure care: a cause for concern. *British Journal of Psychiatry* **191** 70–4.
- DH (2002) *Mental Health Policy Implementation Guide: National Minimum Standards for General Adult Services in Psychiatric Intensive Care Units (PICU) and Low Secure Environments*. London: Department of Health.
- DH (2007) *Best Practice Guidance: Specification for adult medium-secure services*. London: Department of Health.
- Dickens G, Sugarman P & Walker L (2007) HoNOS-Secure: a reliable outcome measure for users of secure and forensic mental health services. *Journal of Forensic Psychiatry and Psychology* **18** 50–14.
- Edwards J, Steed P & Murray K (2002) Clinical and forensic outcome 2 years and 5 years after admission to a medium secure unit. *Journal of Forensic Psychiatry* **13** 68–87.
- Ellwood PM (1988) Shattuck lecture – outcomes management. A technology of patient experience. *New England Journal of Medicine* **318** 1549–56.
- Holloway F (2002) Outcome measurement in mental health – welcome to the revolution. *British Journal of Psychiatry* **181** 1–2.
- Hunter R, Cameron R & Norrie J (2009) Using patient reported outcomes in schizophrenia: the Scottish schizophrenia outcomes study. *Psychiatric Services* **60** (2) 240–5.
- Long CG & Hollin CR (2009) Assessing co-morbid substance use in detained psychiatric patients: issues and instruments for evaluating treatment outcome. *Substance Use and Misuse* **44** (11) 1602–41.
- Maden A, Rutter S, McClintock T, Friendship C & Gunn J (1999) Outcome of admission to a medium secure psychiatric unit. I. Short- and long-term outcome. *British Journal of Psychiatry* **175** 313–6.
- Maden A, Scott F, Burdett R, Lewis GH & Skapinakis P (2004) Offending in psychiatric patients after discharge from medium secure units: prospective national cohort study. *British Medical Journal* **328** 1534.
- Maden A, Skapinakis P, Lewis G *et al* (2006) Gender differences in reoffending after discharge from medium-secure units – National cohort study in England and Wales. *British Journal of Psychiatry* **189** 168–72.
- Mohan R, Judge J & Fahy T (2004) Community forensic psychiatry. *Psychiatry* **3** (11) 11–4.
- The NHS Information Centre (2008) *Mental Health Bulletin: First report and experimental statistics from Mental Health Minimum Dataset (MHMDS) annual return, 2003-2007*. London: The Health and Social Care Information Centre.
- Phelan M, Slade M, Thornicroft G *et al* (1995) The Camberwell Assessment of Need (CAN): the validity and reliability of an instrument to assess the needs of people with severe mental illness. *British Journal of Psychiatry* **167** 589–95.



HoNOS-Secure: tracking risk and recovery for men in secure care

Pirkis J, Burgess P, Coombs T *et al* (2005) Routine measurement of outcomes in Australia's public sector mental health services. *Australia and New Zealand Health Policy* 2 (8).

Reed S, Russel A & Murphy D (2004) People with learning disabilities in a low secure in-patient unit: comparison of offenders and non-offenders. *British Journal of Psychiatry* 185 499-504.

Rutherford M & Duggan S (2007) *Forensic Mental Health Services. Facts and figures on current provision*. London: Sainsbury Centre for Mental Health.

Sahota S, Davies S, Duggan C & Clarke M (2009) The fate of medium secure patients discharged to generic or specialised services. *Journal of Forensic Psychiatry & Psychology* 20 74-84.

Sainsbury Centre for Mental Health (2007) *Forensic Mental Health Services: Facts and Figures on Current Provision*. London: Sainsbury Centre for Mental Health.

SPSS for Windows Release 16.0 (2007) Chicago: SPSS Inc.

Sugarman P & Walker L (2007) HoNOS-Secure version2b. [www.rcpsych.ac.uk/research&training/unit/HoNOS/secure.aspx](http://www.rcpsych.ac.uk/research&training/unit/HoNOS/secure.aspx).

Sugarman P, Walker L & Dickens G (2009) Managing outcomes performance in mental health using HoNOS: experience at St Andrew's Healthcare. *Psychiatric Bulletin* 33 285-8.

Thomson R, Taber S, Lally J & Kazandjian V (2004) UK Quality Indicator ProjectTM (UK QIP) and the UK independent health care sector: a new development. *International Journal for Quality in Health Care* 16 (Suppl. 1) 151-6.

Turner MA, Boden JM, Smith-Hamel C & Mulder RT (2009) Outcomes for 236 patients from a 2-year early intervention in psychosis service. *Acta Psychiatrica Scandinavica* 120 129-37.

Wing JK, Beevor AS, Curtis RH *et al* (1998) Health of the Nation Outcome Scales: research and development. *British Journal of Psychiatry* 172 11-8.

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## APPENDIX II

Related publications, citations on PubMed, other dissemination and related professional activities in each topic area



## **Firesetting**

### Citations

Papers 1 and 2 were cited in:

Gannon TA & Pina A (2010) Firesetting: Psychopathology, theory and treatment. *Aggression and Violent Behavior*, **15**, 224-238.  
[Impact Factor 1.655]

Gannon T (2010) Female arsonists: Key features, psychopathologies and treatment needs. *Psychiatry*, **73**, 173-189.  
[Impact Factor 3.78]

### Related Conference Presentations

BPS Division of Forensic Psychology Conference, University of Kent, 24<sup>th</sup> June 2010. Invited Symposium: Firesetting.

BPS Division of Forensic Psychology Conference. University of Portsmouth, 23<sup>rd</sup> June 2011. Presentation: Motivation and recidivism in firesetting: lessons from the literature.

### Lecturing/ Teaching

Firesetting (MSc module Forensic Mental Health session, University of Northampton, 2010-11)

### Professional groups

Invited membership Chief Fire Officers Association Mental Health Working Group.

### Related Publications

Dickens, G., Sugarman, P., Edgar, S. *et al.* (2008) Characteristics of lower IQ arsonists at psychiatric assessment. *Medicine Science and Law*, **48**, 217-220.

Sugarman, P. & Dickens, G. (2009) Dangerousness in firesetters: A survey of psychiatrist's views. *Psychiatric Bulletin*, **33**, 99-101.

Dickens, G. & Sugarman, P. (in press a) Adult firesetters: prevalence, characteristics and psychopathology. In G. Dickens, P. Sugarman & T.A. Gannon (eds) *Firesetting and mental health: theory, research, practice*. London: RCPsych Publications.

Dickens, G. & Sugarman, P. (in press b) Differentiating firesetters: lessons from the literature on motivation and dangerousness. In G. Dickens, P. Sugarman & T.A. Gannon (eds) *Firesetting and mental health: theory, research, practice*. London: RCPsych Publications.



Long, C.G., Hollin, C.R., Fitzgerald, K-A., & Dickens, G. (in press) Women firesetters admitted to a secure psychiatric service: characteristics and treatment needs. In G. Dickens, P. Sugarman & T.A. Gannon (eds) *Firesetting and mental health: theory, research, practice*. London: RCPsych Publications.

Dickens, G & Sugarman P. (in press) Arson (fire-raising) and criminal damage. Forensic Psychiatry (Eds B Puri & I Treasaden). London: Hodder Arnold.

### Edited Texts

Firesetting and mental health: theory, research, practice (Eds G Dickens, P Sugarman, T Gannon). RCPsych Publications.

Current proposal for edited text:

Handbook of Risk Assessment and Treatment of Deliberate Firesetters (Eds R Doley, T Gannon, G Dickens)

### Associated Research

Principal Investigator (St Andrew's Healthcare site) Development of an offence process of firesetting in mentally disordered offenders. Chief Investigator Theresa Gannon.

## **Smoking in inpatient psychiatry**

### Citations

Paper 3 (Staff views on smoking) has 17 recorded.

Voci, S *et al* Impact of a smoke-free policy in a large psychiatric hospital on staff attitudes and patient behavior. *General Hospital Psychiatry*, **6**, 623-630.  
[Impact Factor 2.669]

Wye, P *et al* (2010) Total smoking bans in psychiatric inpatient services: a survey of perceived benefits, barriers and support among staff. *BMC Public Health*, **10**, 372.  
[Impact Factor 2.22]

Hollen, V *et al* (2010) : Effects of Adopting a Smoke-Free Policy in State Psychiatric Hospitals. *Psychiatric Services*, **61**, 899-904.  
[Impact Factor 2.81]

Maurel-Donnarel, E *et al* (2010) The ban on smoking in public places (Decree No. 2006-1386 of 15th November 2006): Impact over 12 months on smoking status of hospital nurses. *Revue des Maladies Respiratoires*, **27**, 199-212.  
[Impact Factor 0.664]

Wye P *et al* (2010) Providing nicotine dependence treatment to psychiatric inpatients: the views of Australian nurse managers. *Journal of Psychiatric and Mental Health Nursing*, **17**, 319-327.



[Impact Factor 1.063]

Lawn, S *et al* (2010) Factors Associated With Success of Smoke-Free Initiatives in Australian Psychiatric Inpatient Units. *Psychiatric Services*, **61**, 300-305.

[Impact Factor 2.81]

Johnson, JL *et al* (2009) Community mental healthcare providers' attitudes and practices related to smoking cessation interventions for people living with severe mental illness. *Patient Education and Counselling*, **77**, 289-295.

[Impact Factor 1.975]

Ratschen, E *et al* (2009) Tobacco dependence, treatment and smoke-free policies: a survey of mental health professionals' knowledge and attitudes. *General Hospital Psychiatry*, **31**, 576-582.

[Impact Factor 2.669]

Dwyer, T. *et al* (2009) Comparison of mental health nurses' attitudes towards smoking and smoking behaviour. *International Journal of Mental Health Nursing*, **18**, 424-433.

Radsma, J *et al* (2009) Counteracting Ambivalence: Nurses Who Smoke and Their Health Promotion Role With Patients Who Smoke. *Research in Nursing and Health*, **32**, 443-452.

[Impact Factor 1.51]

Wye P *et al* (2009) Smoking restrictions and treatment for smoking: policies and procedures in psychiatric inpatient units in Australia. *Psychiatric Services*, **60**, 100-107.

Villari, V & Barzega, G. (2008) Smoking bans on psychiatric units: boundaries and health promotion. *Psychiatric Services*, **59**, 1063-1064.

[Impact Factor 2.81]

Olivier, D & Lubman, DI. (2007) Tobacco smoking within psychiatric inpatient settings: a biopsychosocial perspective. *Australian and New Zealand Journal of Psychiatry*, **41**, 572-580.

[Impact Factor 0.635]

McNally, L *et al* (2006) Smoking rites and wrongs. *Psychologist*, **19**, 524.

Green, MA *et al* (2008) Smoke-free policies in the psychiatric population on the ward and beyond: a discussion paper. *International Journal of Nursing Studies*, **45**, 1543-1549.

[Impact Factor 1.910]

McNally, L *et al* (2006) A survey of staff attitudes to smoking related policy and intervention in psychiatric and general health care settings. *Journal of Public Health*, **28**, 192-196.

[Impact Factor 1.230]



Bloor, RN *et al* (2006) The effects of a non-smoking policy on nursing staff smoking behaviour and attitudes in a psychiatric hospital. *Journal of Psychiatric and Mental Health Nursing*, **13**, 188-196.  
[Impact factor 1.063]

Paper 4 (inpatients views o smoking) has seven recorded citations. Additionally, the study formed a key element of data presented in a King's Fund debate paper: (Jochelson & Majrowski, 2006) on smoking in psychiatric units.

Wye, P *et al* (2010) Total smoking bans in psychiatric inpatient services: a survey of perceived benefits, barriers and support among staff. *BMC Public Health*, **10**, 372.  
[Impact Factor 2.22]

Wye, P *et al* (2010) Providing nicotine dependence treatment to psychiatric inpatients: the views of Australian nurse managers. *Journal of Psychiatric and Mental Health Nursing*, **17**, 319-327.  
[Impact Factor 1.063]

Keizer, I *et al* (2009) Variations in smoking after admission to psychiatric inpatient units and impact of a partial smoking ban on smoking and on smoking-related perceptions. *International Journal of Social Psychiatry*, **55**, 109-123.  
[Impact Factor 0.966]

Wye P *et al* (2009) Smoking restrictions and treatment for smoking: policies and procedures in psychiatric inpatient units in Australia. *Psychiatric Services*, **60**, 100-107.  
[Impact Factor 2.81]

Villari, V & Barzega, G. (2008) Smoking bans on psychiatric units: boundaries and health promotion. *Psychiatric Services*, **59**, 1063-1064.  
[Impact Factor 2.81]

Olivier, D & Lubman, DI. (2007) Tobacco smoking within psychiatric inpatient settings: a biopsychosocial perspective. *Australian and New Zealand Journal of Psychiatry*, **41**, 572-580.  
[Impact Factor 0.635]

Jochelson, K. (2006) Smoke-free legislation and mental health units: the challenged ahead. *British Journal of Psychiatry*, **189**, 479-480.  
[Impact Factor 5.78]

Jochelson, K & Majrowski, B (2006) *Clearing the air: debating smoke-free policies in psychiatric units*. London: King's Fund. Available at:  
<http://www.spacetobreathe.org.uk/uploads/ClearingtheAir.pdf>  
Results of the study are cited on six occasions within this document

## Conferences



National Association of Psychiatric Intensive Care Units Conference, 7<sup>th</sup> May 2008.  
Smoking and Psychaitry.

### Related Publications

Dickens, G. (2008) Be prepared for the ban. *British Journal of Healthcare Assistants*, **2**, 149-152.

Dickens, G. & Picchioni, M. (2011) 'Patient', 'client', 'service user', 'consumer': a systematic review of terms used to refer to people who use mental health services. *International Journal of Social Psychiatry*.

### Peer Review

I have undertaken peer review on submitted papers related to smoking for the following journals:

Journal of Public Health  
Preventive Medicine  
Chronic Illness  
Clinical Practice and Epidemiology in Mental Health  
European Psychiatry  
Pragmatic and Observational Research

### **Violence and Aggression**

#### Citations

Paper 5: Physical assaults by patients against physiotherapists

Stubbs, B. (2010) Physiotherapist involvement and views on the application of physical intervention to manage aggression: data from a national survey. *Journal of Psychiatric and Mental Health Nursing*, **17**, 754-756.  
[Impact Factor 1.063]

#### Conferences

An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study

- Workshop: Presented at the 1<sup>st</sup> International Conference on Workplace Violence in the Health Sector, Amsterdam, October, 2008
- Presented at University of Northampton Centre for Health & Wellbeing 'Detecting the Evidence' Conference, April 2009
- Presented at RCN Mental Health Conference & Exhibition, Royal College of Surgeons, Edinburgh, March 2009
- Poster presentation at Research in Forensic Secure Units: 7<sup>th</sup> National Conference, Institute of Psychiatry, Kings College London, January 2010.



## Related Publications

Stubbs, B. & Dickens, G. (2008) Prevention and management of aggression in mental health: An interdisciplinary discussion. *International Journal of Therapy and Rehabilitation*, **15**, 351-355.

Dickens, G., Alderman, N. & Bowers, L. (2011) Potential severity of aggressive behaviour after acquired brain injury: implications for recording. *Journal of Psychiatric and Mental Health Nursing* [Advanced Access]

Dickens, G, Rooney, C, Doyle, D. Breakaways in specialist secure psychiatry. Submitted paper.

## Associated Research

Co-investigator: Determining appropriate training duration for breakaway techniques (Chief Investigator: Professor Paul Rogers, University of Glamorgan).

## **Medication Administration**

### Citations

Observational Study (paper 7)

Sadat-Ali, M. *et al* (2010) Medication administration errors in eastern Saudi Arabia. *Saudi Medical Journal*, **31**, 1257-1259.  
[Impact Factor 0.510]

Kelly, J. *et al* (2011) An analysis of two incidents of medicine administration to a patient with dysphagia. *Journal of Clinical Nursing*, **20**, 1-2.  
[Impact factor 1.194]

Procyshyn, RM *et al* (2010) Medication errors in psychiatry: a comprehensive review. *CNS Drugs*, **24**, 595-609.  
[Impact Factor 3.879]

Muramatsu, RS. *et al* (2010) Alternative formulations, delivery methods and administration options for psychotropic medications in elderly patients with behavioural and psychological symptoms of dementia. *American Journal of Geriatric Pharmacology*, **8**, 98-114.

Westbrook, JI *et al* (2010) Association of interruptions with increased risk and severity of medication administration errors. *Archives of Internal Medicine*, **170**, 683-690.  
[Impact Factor 9.813]

Kirkevold, O *et al* (2010) What is the matter with crushing pills and opening capsules? *International Journal of Nursing Practice*, **16**, 81-85.



Kelly, J *et al* (2010) Patients with dysphagia: experiences of taking medication. *Journal of Advanced Nursing*, **66**, 82-91.  
[Impact Factor 1.518]

Decloedt, E *et al* (2009) Pitfalls of administering drugs via nasogastric tubes. *South Africa Medical Journal*, **3**, 148-149.

Onatade, R *et al* (2008) The use of missed doses as an indicator for assessing the quality of clinical pharmacy services: a comparison of two audits. *Pharmacy World and Science*, **6**, 1049-1050.

Maidment, ID *et al* (2008) Medication errors in older people with mental health problems: a review. *International Journal of Geriatric Psychiatry*, **23**, 564-573.  
[Impact Factor 1.981]

Delegation study (paper 8)

Kelly, J *et al* (2009) Administering medication to adult patients with dysphagia. *Nursing Standard*, **23**, 62-68.

Kelly, J *et al* (2010) Administering medication to adult patients with dysphagia: part 2. *Nursing Standard*, **24**, 61-68.

### Conferences

Delegation of medication administration: An exploratory study. Presented at the 8th Annual Interdisciplinary Research Conference, Trinity College, Dublin, November 2007

### Related Publications

Stubbs, J., Haw, C., & Dickens, G. (2008) Dose form modification – a common but potentially hazardous practice. A literature review and a study of medication administration to elderly psychiatric inpatients. *International Psychogeriatrics*, **20**, 616-627.

Dickens, G. (2007) Delegating administration of medicines to HCAs. *British Journal of Healthcare Assistants*, **1**, 273-276.

Dickens, G. (2007) Inpatient Psychiatry: Three methods to detect medication errors. *Nurse Prescribing*, **5**, 167-171.

Dickens, G. Stubbs, J. & Haw, C. (2007) Administering medication to older mental health patients. *Nursing Times*, **103**:15, 30-31.

Dickens, G., Doyle, C. & Calvert, J. (2006) Reducing medication errors in learning disability nursing. *Nurse Prescribing*, **4**, 470-474.

Haw, C, Dickens, G, Stubbs, J. (2005) A review of medication administration errors reported in a large psychiatric hospital. *Psychiatric Services*, **56**, 1610-1613.



## Peer Review

I have undertaken peer review on submitted papers related to smoking for the following journals:

CNS Drugs  
British Journal of Nursing

## **Outcomes in Secure Psychiatry**

## Citations

Reliability study (paper 9)

Alderman, N *et al* (2011) The development of the St Andrew's-Swansea Neurobehavioural Outcome Scale. Validity and reliability of a new measure of neurobehavioural disability and social handicap. *Brain Injury*, **25**, 83-100. [Impact Factor 1.533]

Segal, A *et al* (2010) Needs and risks of patients in a state wide inpatient forensic mental health population. *International Journal of Mental Health Nursing*, **19**, 223-230.

Van den Brink, RHS *et al* (2010) Routine violence risk assessment in community forensic mental healthcare. *Behavioral Sciences and the Law*, **28**, 396-410. [Impact Factor 1.126]

## Conferences

Security Measures: Mental health outcomes measures in secure and forensic settings  
RCN Network for Psychiatric Nursing Research Conference 'Mental health nursing research: Measuring success – multiple perspectives', St Catherine's College, Oxford University, September 2009. Concurrent session

Forensic mental health services: 10 years of progress? Condition Critical: Health, Marketisation & Media. International Association of Health Policy in Europe Annual Conference. Coventry University, 19<sup>th</sup> June 2009.

Managing outcomes performance in mental health using HoNOS: Experience at St Andrew's Healthcare. Poster presentation at Research in Medium Secure Units One Day Conference, Institute of Psychiatry, January 2009.

## Professional Groups

I work closely with the Mental Health Providers Forum in order to analyse data related to a new recovery-oriented outcomes tool, and to develop and implement a new forensic-oriented recovery outcomes tool.



### Related Publications

Long, C., Dickens, G., Sugarman, P. *et al* (2010) Tracking risk profiles and outcome in a medium secure service for women: use of the HoNOS-secure. *International Journal of Forensic Mental Health*, **9**, 215-225.

Dickens, G. & Sugarman, P. (2010) Demonstrating positive global and risk-related outcomes in mental health with HoNOS. *British Journal of Healthcare Management*, **16**, 431-435.

Dickens, G. (2009) Mental health outcomes measures in the age of recovery-based services. *British Journal of Nursing*, **18**, 940-943.

Sugarman, P., Walker, L. & Dickens, G. (2009) Managing outcomes performance in mental health using HoNOS: Experience at St Andrew's Healthcare. *Psychiatric Bulletin*, **33**, 285-288.

Dickens, G, Weleminsky, J, Onifade, Y, Sugarman, P. Recovery Star: validating user recovery. Submitted paper.



### APPENDIX III

Application to study for a PhD by means of published works (original application  
February 2010)



## Application to Study for a PhD by Means of Published Works

**Please all sections as fully as possible in block capitals or type.**

**The completed form should be returned to:**

The Graduate School, Park Campus, Boughton Green Road, Northampton NN2 7AH

Proposed Area of Study/School: School of Health
Proposed Start Date: February 2010

Surname Dickens	Previous University of Northampton
Forename Geoffrey	Student Number (if applicable) N/A
Title Mr	Date of Birth 30/10/1967
Any previous surname Brown	Country of Birth UK
Home Address	Nationality British
34 Manfield Road	Country where you normally reside when not studying
Northampton	Date of Entry to the UK (if applicable)
	Telephone 01604 616362
Postcode NN1 4NN	Mobile Telephone 07929233395
	E-mail gdickens@standrew.co.uk

Correspondence Address (if not as Home)	Work Address
Work address - see opposite	St Andrew's Academic Centre
	Northampton
Postcode	Postcode NN1 4BW
	Work Telephone 01604 616362
	Work e-mail gdickens@standrew.co.uk

Who is paying your Fees?	Address of fee payer
Employer / Sponsor <input checked="" type="checkbox"/> Self <input type="checkbox"/>	St Andrew's Healthcare
University of Northampton Bursary <input type="checkbox"/>	Billing Road
	Northampton. NN1 5DG

Applicants for PhD by Means of Published Works are asked to provide a statement on the review processes of the journals (or equivalent) in which the work has been published, a copy of the first page of each of the works and, where appropriate, statements from co-authors on the extent of the applicant's contribution to the research.



**Academic Qualifications (please do not translate educational award names)**
**General Education achieved** (post-16 only) (most recent first)

Year of Examination	Awarding Body / Institution	Subject	Level	Grade Achieved
1986	JMB	Economics	A	A
1986	JMB	Geography	A	B
1986	JMB	General Studies	A	D

**Higher / Professional / Vocational / Other Qualifications** (most recent first)

Year of Examination	Awarding Body / Institution	Subject	Level	Grade Achieved or Expected
1990/1993	ENB	Registered Mental Nurse (RMN)	-	Pass
1995/1998	University of Leicester	Psychology	BSc (Hons)	2i
2001/2003	South Bank University	Nursing research & practice development	M	6 x 20 credit modules
2008/2009	Coventry University	Specialist Journalism (Health)	MA	Pass with distinction

**English Language**

If English is not your first language, please indicate your score and attach a copy of the certificate

IELTS	Overall	Listening	Reading	Writing	Speaking
TOEFL	Paper <input type="checkbox"/>	Computer Based	<input type="checkbox"/>		

**Employment History (most recent first)**

Dates (start & end)	Employer	Position held	Nature of work
January 1999 to present	St Andrew's Healthcare	Research manager & Head of Nursing Research/ Research Nurse & Co-ordinator/ Research & Development Nurse/ Staff Nurse	Mental health research and governance management
1997-1998	Leicestershire Mental health NHS Trust	Bank Staff Nurse	Mental health care
1994 - 1996	Lifespan Healthcare	Staff Nurse	Adolescent mental health care
1990 - 1993	Addenbrookes NHS Trust	RMN Student	Mental health care



**Additional Information in Support of Your Application**

**Please indicate your reason for wishing to undertake a research degree and any relevant skills and experience**

Career development purposes; to draw my existing body of research together.

Please continue on a separate sheet if necessary



You should list the published works to be submitted here and attach a document of 750-1000 words demonstrating a case for the published works as a coherent programme of research, making an original contribution to the present state of knowledge.

*Published works with statements regarding review process and co-authors estimates of my contribution*

1. **Dickens, G., Sugarman, P. et al. (2009)** Recidivism and dangerousness in arsonists: Characteristics of repeat firesetters referred for psychiatric assessment. *Journal of Forensic Psychiatry & Psychology*, **20**(5), 621-639.

**“Peer Review Integrity**

All articles in *The Journal of Forensic Psychiatry and Psychology* have undergone editorial screening, consideration and peer review.”

Co-author PS estimates my contribution to be 60%

2. **Stubbs, B. & Dickens, G. (2009)** Physical assault in mental health practice: a survey of physiotherapists’ experience. *Physiotherapy*, **95**(3), 170-175.

**“Peer Review Policy**

*Physiotherapy* is peer reviewed by an international panel and operates a system of blind, anonymous refereeing. At least two independent opinions are sought on all papers. Referees are asked to discuss any conflict of interest with the editor before undertaking the review. Referees and associate editors, who receive the manuscript sequentially, are each asked to provide their review within three weeks of receiving the manuscript. Associate editors are aware of authorship.”

Co-author BS estimates my contribution to be 40% (I estimate 50%)

3. **Dickens, G., Rogers, G. Rooney, C., Doyle, D., & McGuinness, A. (2009)** An audit of the use of breakaway techniques in a large psychiatric hospital: a replication study. *Journal of Psychiatric & Mental Health Nursing*, doi: 10.1111/j.1365-2850.2009.01449.x

**“Blinded Review**

All manuscripts submitted to *Journal of Psychiatric and Mental Health Nursing* will be reviewed by two experts in the field. *Journal of Psychiatric and Mental Health Nursing* uses double-blinded review. The names of the reviewers will thus not be disclosed to the author submitting a paper and the name(s) of the author(s) will not be disclosed to the reviewers.”

Co-author GR estimates my contribution to be 50%

4. **Sugarman, P., Walker, L. & Dickens, G. (2009)** Managing outcomes performance in mental health using HoNOS: Experience at St Andrew’s Healthcare. *Psychiatric Bulletin*, **33**, 285-288.

“All submissions that the Editor deems to be within the journal’s remit and presented appropriately will be sent for review by a minimum of two peers who declare that they have no conflict of interest in assessing the submitted manuscript. The assessments resulting from peer-review assist the Editor in deciding which manuscripts, perhaps after further revision, may be appropriate for publication.”

Co-author PS estimates my contribution to be 60%



5. **Dickens, G. Stubbs, J. & Haw, C. (2008)** Delegation of medication administration: an exploratory study. *Nursing Standard*, **22**, 35-40.

**“What happens to your manuscript?”**

All manuscripts submitted to *Nursing Standard* are acknowledged... and then assessed internally before being sent to an external clinical expert for double-blind peer review.”

Co-authors CH/JS jointly estimate my contribution to be 40%

6. **Stubbs, J., Haw, C., & Dickens, G. (2008)** Dose form modification – a common but potentially hazardous practice. A literature review and a study of medication administration to elderly psychiatric inpatients. *International Psychogeriatrics*, **20**, 616-627

“All papers will be assessed by two reviewers. If their opinions are too disparate to permit the Editor-in-Chief to make a decision on publication, the paper will be assessed by a third reviewer. The Editor-in-Chiefs decision to accept or reject the paper for publication will be final.”

Co-authors CH/JS jointly estimate my contribution to be 25%

7. **Dickens, G. Sugarman, P. & Walker, L. (2007)** HoNOS-secure: A reliable outcome measure for users of secure and forensic mental health services. *Journal of Forensic Psychology & Psychiatry*, **18** (4), 507-514.

**“Peer Review Integrity**

All articles in *The Journal of Forensic Psychiatry and Psychology* have undergone editorial screening, consideration and peer review.”

Co-author PS estimates my contribution to be 80%

8. **Haw, C., Stubbs, J. & Dickens, G. (2007)** An observational study of medication administration to old age psychiatry inpatients. *International Journal for Quality in Health Care*, **19**(4), 210-216.

**“About the journal**

This peer-reviewed journal is truly interdisciplinary and includes contributions from representatives of all health professions such as doctors, nurses, quality assurance professionals, managers, politicians, social workers, and therapists, as well as researchers from health-related backgrounds.”

Co-authors CH/JS jointly estimate my contribution to be 25% (I estimate 33%)

9. **Haw, C, Dickens, G, Stubbs, J. (2005)** A review of medication administration errors reported in a large psychiatric hospital. *Psychiatric Services*, **56** (12), 1610-3.

**“Review Process**

Manuscripts submitted for publication (including invited papers) are sent for blind review to at least three independent reviewers. Separate statistical review is obtained when a reviewer requests it. The final decision is the Editor's.”

Co-authors CH/JS jointly estimate my contribution to be 33%



10. **Dickens, G.L., Stubbs, J., Popham, R. & Haw, C.M. (2005)** Smoking in a forensic psychiatric service: a survey of inpatients views. *Journal of Psychiatric & Mental Health Nursing*, **12**, 672–8.

**“Blinded Review**

All manuscripts submitted to Journal of Psychiatric and Mental Health Nursing will be reviewed by two experts in the field. Journal of Psychiatric and Mental Health Nursing uses double-blinded review. The names of the reviewers will thus not be disclosed to the author submitting a paper and the name(s) of the author(s) will not be disclosed to the reviewers.”

Co-authors CH/JS jointly estimate my contribution to be 50%

11. **Dickens, G.L., Sugarman, P.A. & Rogers, G. (2005)** Nurses’ perceptions of the working environment: a UK independent sector study. *Journal of Psychiatric & Mental Health Nursing*, **12** (3), 297-302.

**“Blinded Review**

All manuscripts submitted to Journal of Psychiatric and Mental Health Nursing will be reviewed by two experts in the field. Journal of Psychiatric and Mental Health Nursing uses double-blinded review. The names of the reviewers will thus not be disclosed to the author submitting a paper and the name(s) of the author(s) will not be disclosed to the reviewers.”

Co-author PS estimates my contribution to be 80%

Co-author GR estimates my contribution to be 60%

12. **Dickens, G.L., Stubbs, J. & Haw, C. (2004)** Smoking and Mental Health Nurses: a survey of clinical staff in a psychiatric hospital. *Journal of Psychiatric & Mental Health Nursing*, **11**, 445-51.

**“Blinded Review**

All manuscripts submitted to Journal of Psychiatric and Mental Health Nursing will be reviewed by two experts in the field. Journal of Psychiatric and Mental Health Nursing uses double-blinded review. The names of the reviewers will thus not be disclosed to the author submitting a paper and the name(s) of the author(s) will not be disclosed to the reviewers.”

Co-authors CH/JS jointly estimate my contribution to be 40%

13. **Dickens, G.L. & Campbell, J. (2001)** Absconding of patients from an independent UK psychiatric hospital: A 3 year retrospective analysis of events and characteristics of absconders. *Journal of Psychiatric & Mental Health Nursing*, **8** (6), 543-50.

**“Blinded Review**

All manuscripts submitted to Journal of Psychiatric and Mental Health Nursing will be reviewed by two experts in the field. Journal of Psychiatric and Mental Health Nursing uses double-blinded review. The names of the reviewers will thus not be disclosed to the author submitting a paper and the name(s) of the author(s) will not be disclosed to the reviewers.”

Co-author JC estimates my contribution to be XX%

The above papers are accounts of empirical research, published in leading double-blind, peer-reviewed journals by at least two referees (with the exception of 4 & 5 which are included as they illustrate key aspects of the proposed central thesis). A number of sole or multiple-authored subsidiary empirical or review/comment papers in respected professional and academic journals including Nursing Times, Psychiatric Bulletin, Medicine Science & Law, British Journal of Nursing, International Journal of Therapy & Rehabilitation and Nurse Prescribing will also be cited to support the case for the work as a coherent programme.

Please continue on a separate sheet if necessary



## References

Please state the name, address and email address of 2 referees who can comment on your academic ability. We will need to contact these people to obtain a reference if you are called to interview.

Name Dr John Lister
Position Senior Lecturer
Address
Coventry University
School of Art and Design
Ellen Terry Building
Postcode CV1 2LU
Email John Lister [arx226@coventry.ac.uk]
Telephone number

Name Professor Philip Sugarman
Position CEO & Medical Director
Address St Andrew's Healthcare
Billing Road
Northampton
Postcode NN1 5DG
Email psugarman@standrew.co.uk
Telephone number 01604 616000

## Declaration

I certify that to the best of my knowledge the information contained in this application form is correct and complete. I agree to abide by the rules and regulations of the University of Northampton as amended from time to time and to observe the Code of Conduct (see [www.northampton.ac.uk](http://www.northampton.ac.uk))

I understand that an electronic record will be created as a result of submitting this application and give permission for staff of the University of Northampton (and associated colleges where appropriate) to access any information held in order to process the application.

Signature: ..... Date: .....

Print Name: .....



## ***Mental Health Nurse as pragmatic researcher in specialist inpatient psychiatry***

### **Overview**

Psychiatric nurses working in inpatient settings draw upon knowledge and skills from various disciplines and traditions, *inter alia* psychology, medicine, sociology, epidemiology, counselling & psychotherapy, and from different theoretical or epistemological perspectives: positivism, constructivism, or emancipatory positions including feminism and Marxism. They use eclectic methods to inform practice, and work in collaboration with multiple professional disciplines, with service-users, their families and carers. Users of inpatient services in which psychiatric nurses work present with varying symptomatology, needs, behavioural difficulties, levels of functioning and so on. In secure or forensic settings, psychiatric nurses work with people with mental illness at the interface between care and criminal justice. In these and related secure settings psychiatric nurses work within, are informed by, and use as a therapeutic tool, aspects of physical, relational and procedural security. To undertake their role, nurses gather information from multiple sources: existing data, observation, primary interviews with patients and other professionals, clinical audit and reflection. This thesis will argue the case for mental health nurse as pragmatic researcher in secure inpatient environments. A conceptual model of pragmatic nursing research informed by positivism/post-positivism will be developed which runs parallel to the nursing process and is capable of generating new knowledge for assessment & diagnosis, planning, intervention and evaluation.

### **Background**

New knowledge to inform psychiatric nursing practice has rarely been generated by the the 'gold-standard' Randomised Controlled Trial (RCT). A CINAHL search for 'RCT' variants and 'mental health nurse' variants identified just nine studies. Whilst RCT's of MH nursing interventions have undoubtedly added greatly to our knowledge of what works when delivered by psychiatric nurses (see e.g. Curran & Brooker, 2007), it does illustrate how the vast majority of psychiatric nursing practice is not underpinned by RCT evidence. In secure or forensic settings there is even less, and less good, RCT evidence for the efficacy of nursing interventions. For example a total of four RCT's including mental health nursing interventions for people with personality disorder (Woods & Richards, 2003).

Furthermore, there has been considerable debate in the psychiatric nursing literature about the appropriateness of the RCT (e.g. Barker & Buchanan-Barker, 2005) as an informant of psychiatric nursing practice *per se*. Such critiques have invariably emerged from a postmodern or constructivist epistemological paradigm, starting from the premise that there is no measurable, objective reality. However, there are more practical reasons why the RCT can not provide all the necessary evidence for psychiatric nursing practice. Working at the level of prediction and control RCT's tell us about the efficacy and/or effectiveness of tightly defined interventions, but, for example, cannot answer questions that demand more basic description of phenomena.



neither can they answer questions about ethical dilemmas, or more fundamentally tell us how to talk to or 'be wuth' people. The jobbing mental health nurse researcher who broadly works within a positivist epistemological framework will need to understand a variety of problems across areas of risk assessment and dangerousness, treatment outcomes evaluation, service user and staff perspectives, and practice development.

However, there is currently no model for the mental health nurse researcher working as a post-positivist 'jack of all trades'. The concept of the 'bricoleur' (commonly referred to in English as a 'jack of all trades'), with its origins in the anthropological work of Levi-Strauss, has been applied to nursing practice (e.g. Aagard, 2009; Gobbi, 2005) in order to emphasise both the eclectic nature of nursing work as a constant 'work in progress' and of the need for nurses to make do with what is at hand. The associated term 'bricolage' has, in health research terms, been synonymous with qualitative research, and more specifically qualitative work from a constructivist or interpretivist epistemological perspective. Denzin & Lincoln (1994: 2) describe the bricoleur as "adept at performing a large number of diverse tasks, ranging from interviewing to observing, to interpreting personal and historical documents, to intensive reflection and introspection.", but further examination may render this approach non-consistent with post-positivist research traditions. Levi-Strauss – from a perspective of anthropological fieldworker in the Amazon rainforest he posited the notion of fieldworker-as-bricoleur, whose art is in the interpretation of existing knowledge: in essence, storytellers.

The proposed thesis will make a case that the body of work presented, whilst to an extent superficially disparate, represents a case for mental health nurse as pragmatic researcher working within a largely positivist worldview, but drawing on various methodologies, working with divergent participant groups and other data sources, collaborating with professionals from multiple disciplines; all in order to produce knowledge to inform practice: whether this be at policy level, at individual risk assessment and management level, at a practice level, or about outcomes at both an individual and service level. The model is intended to represent a post-positivist equivalent to the constructivist 'bricolage'.

It is anticipated that the published work presented will be used as a basis to develop a model for the generalist, pragmatic mental health nurse researcher with four key themes (broadly mapping onto the nursing process), with each containing different research and methodological approaches. This will draw together the new knowledge presented in the published works.

## **1. Risk and dangerousness (Assessment)**

*Characteristics of absconders, arson and dangerousness.*

Papers: 1, 13



## **2. Multiple perspectives (Diagnose and Plan)**

*Surveys of nursing staff (smoking, work environment), service users (smoking), surveys of other disciplines (Smoking – multiple staff, Physiotherapists in mental health settings)*

Papers: 2, 10, 11, 12

## **3. Nursing practice (Intervention)**

*Studies of medications administration, 'breakaway' techniques*

Papers: 3, 5, 6, 8, 9

## **4. Service and service user outcomes (Evaluation)**

*Development of HoNOS-secure and outcomes studies*

Papers: 4, 7

## **References**

Aagard, M. (2009) Bricolage: Making do with what is at hand. *Creative Nursing*, **15** (2), 82-84.

Buchanan-Barker P and Barker P (2005) Observation: The original sin of mental health nursing. *Journal of Psychiatric and Mental Health Nursing*, **12** (5) 541-549.

Curran, J. and Brooker, C. (2007) Systematic review of interventions delivered by UK Mental Health Nurses. *International Journal of Nursing Studies*, **44**, 3, 479-511.

Denzin, N.K. & Lincoln, Y.S. (1994) Introduction. Entering the field of qualitative research. In N.K. Denzin & Y.S. Lincoln (Eds). *Handbook of qualitative research*. Sage: Thousand Oaks, CA.

Gobbi, M. (2005) Nursing practice as bricoleur activity: a concept explored. *Nursing Inquiry*, **12** (2), 117-125.

Woods, P. & Richards, D. (2003) Effectiveness of nursing interventions in people with personality disorders. *Journal of Advanced Nursing*, **44**(2), 154-172.



## APPENDIX IV

Papers substituted into the thesis during the registration period and statement of substantial and original contribution



During the course of the thesis, as writing progressed, a decision was made, in consultation with supervisors, to include two published papers which had previously been omitted from the application document. Five papers included in the application document were removed from the final thesis.

The two included papers

**Dickens, G., Sugarman, P., Ahmad, F. et al (2007)** Gender differences amongst adult arsonists at psychiatric assessment. *Medicine Science and Law*, **47**, 233-238.

**Peer review integrity**

“Medicine, Science and the Law is an academic journal that publishes peer-reviewed papers on a wide range of subjects of forensic interest.”

Co-author PS estimates my contribution to be about 50%.

**Dickens, G., Picchioni, M., Sugarman, P. et al (2010)** HoNOS-secure: tracking risk and recovery for men in secure care. *British Journal of Forensic Practice*, **12**, 36-45.

**Peer review integrity**

“The BJFP is a peer reviewed journal and is both multi-agency and multidisciplinary in its outlook.”

Co-author PS estimates my contribution to be about 60%.

This thesis for the degree of PhD by means of published work comprises papers that represent conjoint work. The extent to which the work is affected is detailed in Appedices III and IV. I confirm that a substantial part of the conjoint work is the original work of the candidate.

Signed: \_\_\_\_\_

Geoff Dickens  
Candidate