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## Abstract

Smoke-free policies in mental health settings are important to protect health but are often impeded by staff concerns that physical violence may increase. We aimed to address the literature gap about the frequency, nature and management of physical violence in relation to smoking. We compared the antecedents and containment of smoking-related incidents of physical violence over a two-year period, (12-months when an indoor-only smoke-free policy was in place, followed by 12-months after a new comprehensive smoke-free policy was introduced) using incident reports completed by staff in a large mental health organisation in London, UK. Sixty-one smoking-related incidents occurred during the indoor-only smoke-free policy period; 32 smoking-related incidents occurred during the comprehensive smoke-free policy. We identified four antecedent categories for physical violence: 1) patient request to smoke denied by staff; 2) during a supervised smoking break; 3) staff response to a patient breach of the smoke-free policy 4) asking for, trading or stealing smoking materials. The antecedent pattern changed across the two policy periods, with fewer incidents of denying a patient's request to smoke and a greater number of incidents involving staff responding to breaches occurring after the introduction of the comprehensive smoke-free policy. The prohibition of smoking breaks removed this source of violence. Time-out and PRN medication were the most common containment interventions. Understanding the context of smoking-related violence may inform clinical guidelines about its prevention and management.

Keywords: hospitals; inpatients; mental health; smoke-free policy; smoking; violence

## Introduction

The implementation of smoke-free policies in mental health settings are commonplace in Europe, North America and Australia. Indoor-only smoke-free policies were implemented throughout UK National Health Services (NHS) hospitals from 2006 (Royal College of Physicians, 2018). Complete smoke-free NHS Estates where smoking is prohibited in hospital grounds and buildings alongside a tobacco treatment pathway (i.e. a comprehensive smoke-free policy) has been an ambition of the NHS since the 1980s (Royal College of Physicians, 2018). However, widespread introduction of comprehensive policies only started to happen following publication of National Institute of Health and Care Excellence (NICE) guidelines for smoking in secondary care (NICE, 2013). Implementation of smoke-free policies in mental health settings have attracted controversy (Arnott et al. 2015; Campion et al. 2006) and some staff have expressed concern that their introduction may lead to increased violence (Dean et al. 2018; Hehir et al. 2013). However, nine out of 10 studies included in a systematic review by Lawn and Pols (2005) evaluating changes in violence following implementation of smoke-free policies found either no change or a decrease in violence. A more recent systematic review reported that eight out of 11 studies found either no change or a reduction in verbal or physical violence post-policy implementation (Spaducci et al. 2018). We previously evaluated the effect of introducing a comprehensive smoke-free policy on physical violence across four UK NHS psychiatric hospitals using a time series design, accounting for confounding variables that may have influenced rates of violence such as patient demographics and clinical characteristics (Robson et al. 2017). We identified a 47% reduction in physical violence towards staff and a 15% reduction in violence towards other patients in the 12 months after the policy was introduced, relative to the 30 months before.

## Background

Violence is common in inpatient mental health services; a meta-analysis of 35 studies including 23,972 inpatients from acute mental health wards found that almost one in five inpatients perpetrated at least one act of physical violence during hospitalisation (Iozzino et al. 2015). This has physical and psychological consequences for staff including physical injuries, anxiety and fear (Needham et al. 2005), with some members of staff leaving the profession as a result (Richter & Berger, 2006). There is less research on patient perspectives of being involved in violence during hospitalisation (Ilkiw-Lavalle & Grenyer, 2003).

The antecedents of violence and containment interventions in inpatient mental health settings have been extensively researched, however a detailed examination of the antecedents and containment of violence in relation to smoking and smoke-free policies is missing from the literature. A meta-analysis of 71 studies by Papadopolous et al. (2012), of the antecedents of violence in psychiatric in-patient settings found that patient-patient interactions, e.g. patients intruding physically or psychologically into another's space and staff-patient interactions, such as staff limiting a patient's freedom, were the most common causes of violence. Patient demographic and clinical characteristics that are predictive of violence on mental health wards include being of a younger age, male, having a diagnosis of Schizophrenia, prior history of violence and previous illicit drug use (Dack et al. 2013). Containment interventions frequently used by staff to manage violence, include the use of Pro Re Nata (PRN) medication, (Stewart et al. 2012), increased observation (Bowers et al. 2004), restraint (Stewart et al. 2009) and seclusion (Ross et al. 2012). Previous studies suggest the antecedents of smoking-related violence in the context of implementing a comprehensive smoke-free policy include staff denying a patient's request to smoke and restricting access to cigarettes; however, descriptive accounts of staff interactions with patients before the violence occurred and containment

interventions used to manage these violent incidents were missing (Campion et al. 2008; Huddleston et al. 2018). Previous research has described the types of injuries sustained during violent incidents in inpatient wards (Renwick et al. 2016), but not in the context of smoking-related violence. The latter is important in order to assess the severity of any injuries in relation to smoke-free policy implementation.

In our prior study, physical violence related to smoking accounted for less than 5% of the total number of incidents (Robson et al. 2017); a more detailed examination about why smoking-related physical violence occurs and how it is managed may help inform staff on how to prevent this, and whether containment strategies are proportionate to the level of violence. Therefore, this current study builds on our previous research by examining the antecedents and containment interventions used by staff and the injuries sustained during smoking-related incidents of physical violence, throughout a 12-month period when an indoor-only smoke-free policy was in place, followed by a further 12-month period after a comprehensive smoke-free policy was introduced.

## Methods

### Design

We undertook a manifest content analysis (Downe-Wamboldt, 1992) of incident reports of physical violence related to smoking, and extracted data on antecedents, nature of assault, injury sustained, and containment interventions to manage the violence.

### Setting

This study was conducted in the inpatient wards of a large mental health organisation in London, UK with four hospitals, 50 wards and 800 beds, providing a full range of specialist

mental health care services, including acute, long-term, specialist and older persons services to a population of approximately 1.1 million.

An indoor-only smoke-free policy was introduced from 2008 to 2014, which prohibited smoking inside hospital buildings. Smoking materials were held by patients or stored by staff and handed to patients during staff facilitated 'smoking breaks' in ward gardens. Patients who smoked had access to nicotine replacement therapy (NRT). During this period, staff were spending approximately two hours and 23 minutes a day supervising smoking breaks (Robson et al. 2016). Following the publication of NICE (2013) recommendations, a comprehensive smoke-free policy was introduced from 1<sup>st</sup> October 2014. The policy prohibited smoking in buildings, ward gardens, grounds and staff facilitated 'smoking breaks' were no longer allowed. Additionally, a tobacco dependence treatment pathway was introduced, including the offer of NRT within 30 minutes of admission to hospital, behavioural support and recommendations for ongoing stop smoking medication from a tobacco dependence treatment advisor. E-cigarette use was also permitted. The policy and treatment pathway are supported by a staff training programme.

### Sample and Data Collection

Data were a subset of incident reports of physical violence used for the larger study (Robson et al. 2017) and only included violent incidents related to smoking, occurring between 1<sup>st</sup> October 2013 to 30<sup>th</sup> September 2015, a 12-month period when an indoor-only smoke-free policy was in place, followed by a further 12-month period after the comprehensive smoke-free policy was introduced. We included incidents that occurred on adult wards, and excluded incidents in forensic services because a comprehensive smoke-free policy had been piloted there one year earlier than the rest of the organisation. Data were extracted from incident reports recorded in

Datixweb, an online reporting system. Staff were required to report details of incidents relating to patient safety within 24 hours of an event. The incident reports were completed by a staff member who observed the incident and was then scrutinised further by a senior manager. Datixweb contains structured fields to record the type, time, date, and location of the incident. It also contains two unstructured fields to include a description of the incident and its management. Physical violence was defined as intentional and unlawful, unwanted or unwarranted force against another person, resulting in physical injury or discomfort. Physical contact had to occur, either directly (person to person) or indirectly, i.e. the use of liquid or a weapon (NHS Protect Publications, 2016). For the violence to be smoking-related, the record of the antecedent had to include a smoking-related term (e.g. smoke, tobacco or cigarettes). Data extracted from structured fields within the incident report included date of the violence and whom it was directed towards. Details of the antecedents, type of assault, injury sustained, and containment interventions used, where provided, were extracted from the free-text field within each incident report. Demographic and clinical characteristics of the patients who were reported to have initiated the violence were extracted from electronic healthcare records. We received approval from the organisation's clinical audit department to conduct the study.

## Analysis

After reading a sample of the incident reports, DR developed an initial coding framework for the antecedents. KH and GS independently categorised the data according to the coding framework and developed new codes as they emerged. Incidents could be classified into more than one category. Containment interventions were analysed using a coding framework developed by DR and GS. These included use of time-out (asking the patient to stay in an unlocked room alone on a consensual basis until they are calmer) (Bowers et al. 2012<sup>b</sup>), PRN

medication (Stewart et al. 2012), increased observation of a patient (Bowers et al. 2004), restraint which involves manually holding a patient to prevent movement (Bowers et al. 2012<sup>a</sup>) and seclusion (the isolation of a patient in a locked room) (Ross et al. 2012). We also included de-escalation which involves verbal and non-verbal communication to diffuse violence (NICE 2015). The nature of assaults and injuries sustained were coded inductively from the free text fields of the incident reports. Quality checks were conducted independently by GS and KH on 10% of the incidents early in the coding process and discrepancies were resolved with DR to allow for subsequent consistency.

## Results

Overall, there were 93 recorded incidents of physical violence related to smoking, perpetrated by 74 individual patients. Sixty-seven incidents involved patient-toward-staff violence (42 during the indoor-only smoke-free policy period and 25 post-comprehensive smoke-free policy introduction). Twenty-six incidents involved patient-toward-patient violence, (19 during the indoor-only smoke-free policy period and seven post-comprehensive smoke-free policy introduction). Overall, there were 61 incidents related to smoking during the indoor-only smoke-free policy period, compared with 1289 incidents of violence unrelated to smoking. There were 32 incidents of violence related to smoking post-comprehensive smoke-free policy introduction compared with 1229 incidents unrelated to smoking.

## Patient Characteristics

The average age of the 74 patients who were reported to have initiated violence was 40 years, half were female. Forty-two patients (57%) had a diagnosis of schizophrenia or a related disorder (ICD-10, F.20-29), 14 (19%) had a mood disorder (ICD-10, F.30-39), 17 (24%) had a different diagnosis (including dementia) and the diagnosis of one patient was not specified.



Sixty-three (85%) patients were legally detained at the time of the incident. In total, 68 (92%) were smokers and sixty-seven (91%) had a previous history of violence.

#### Classification of the antecedents of violence

An antecedent was identified in 92 of the 93 reported incidents of smoking-related violence. Eighty-three incidents could be classified into one of four categories (Table 1). Eight incidents could be fitted into two categories and one incident fitted into three categories.

#### **Please insert Table 1 here**

##### Single antecedent category

##### *1. Patient request to smoke denied by staff*

Incidents were classified under this category when patients asked for their smoking materials that had been stored by staff and their request was denied (Table 1). This included incidents where staff prohibited patients from leaving the ward to smoke e.g. during the indoor-only smoke-free policy period, staff refused patient requests to smoke if it was outside of scheduled smoking break times or if staff were concerned about the patient's welfare. During the indoor-only smoke-free policy period, there were 16 incidents of violence towards staff and two incidents towards other patients; the latter occurred when patients were still agitated after their request to smoke was refused by staff and subsequently became violent towards their peers.

*"Patient then became agitated and wanting to go out of the ward according to his request for a smoke....undermining all therapeutic engagement to deescalate his agitation but ended up throwing his weight on the staff (who) sustained bruises." (Patient-towards-staff, indoor-only smoke-free policy: patient, male, age 18-29).*

*“Patient became verbally aggressive because they could not go out to smoke. The patient later attacked a fellow patient sitting in the communal area with the heel of their shoe by hitting the victim on the head. Victim was bleeding and their face was swollen.” (Patient-towards-patient, indoor-only smoke-free policy: patient, female, age 18-29).*

Post-comprehensive smoke-free policy introduction, there were 10 patient-toward-staff incidents classified in this category and no patient-toward-patient incidents.

*“Approached staff member in the nurses' station and requested to smoke. Staff was in the process of informing her that she cannot smoke on the ward; she suddenly slapped the staff member on her face and spat at her.” (Patient-towards-staff, comprehensive smoke-free policy: patient, female, age 18-29).*

## *2. During a supervised smoking break*

Incidents were classified under this category when smoking was facilitated and supervised by staff in the ward garden or hospital grounds. There were 12 recorded incidents of patient-toward-staff violence and 10 patient-toward-patient incidents during the indoor-only smoke-free policy period and none post-comprehensive smoke-free policy introduction.

*“Staff lit a cigarette for another patient and this patient just came along inviting staff to a fight, ..... he told staff to “f\*\*off...”, later .....he head butted staff member on the forehead and tried to bite his hand when trying to free himself.” (Patient-toward-staff, indoor-only smoke-free policy: patient, male, age 60-69).*

*“Two patients were in the garden smoking. Staff then noticed that one patient had punched the other in the face.” (Patient-toward-patient, indoor-only smoke-free policy: patient, female, age 40-49).*

### *3. Staff response to a patient breach of smoke-free policy*

Incidents were classified under this category when staff either observed or suspected a patient of smoking and responded in several ways, e.g. asking them to extinguish their cigarette or hand over smoking materials. Incidents where staff physically intervened to remove smoking materials from the patient were also included; though this was contrary to the guidance in the smoke-free policy and staff training. All the incidents classified in this antecedent category occurred on a ward. During the indoor-only smoke-free policy period, there were seven incidents of violence-toward-staff and none towards other patients.

*“Staff asked the patient not to smoke in the building. As the staff member reached down to put out the patient’s cigarette, the patient punched the staff member in the head” (patient-toward-staff, indoor-only smoke-free policy: patient, female, 50-59).*

Post-comprehensive smoke-free policy introduction there were eleven incidents of patient-toward-staff violence and none towards other patients.

*“On approaching patient's bedroom, the smell of the tobacco became stronger. Patient was informed that she would need to be searched as well as her room, but she refused and said that she was going to contact police..... she started hitting staff on the forehead” (patient-toward-staff; comprehensive smoke-free policy: patient, female, age 30-39).*

### *4. Asking for, trading or stealing smoking materials*

Incidents were classified under this category when patients either attempted to or stole smoking materials from staff or other patients, and where patients either requested, or traded, smoking materials with each other. This did not include requesting smoking materials

from staff (included in category one). During the indoor-only smoke-free policy period, there were two incidents of violence-toward-staff and six incidents of violence-toward-patients.

*“Patient A was knocking on Patient B’s door demanding cigarettes. Patient B then came out demanding to be left alone and in the process Patient A threw a punch at Patient B.” (Patient-toward-patient, indoor-only smoke-free policy: patient, male, age 18-29).*

Post-comprehensive smoke-free policy introduction, there was one incident of patient toward-staff violence and six incidents of patient-toward-patient violence.

*“Patient A reported that Patient B followed her into the bathroom believing she had cigarettes. Patient B asked Patient A for one and when Patient A reported she had none and she should get her own Patient B allegedly threw a cup of tea over her.” (Patient-toward-patient, comprehensive smoke-free policy: patient, female, age 40-49).*

#### *Unspecified and combination of antecedent categories*

There was no recorded antecedent in one incident and therefore it did not fit into the above categories (not included in Table 1). The patient was found smoking in their bedroom and became violent, no other information, including staff response to the breach was reported.

As shown in Table 1, eight incidents could be classified into two categories, e.g. a patient was in the garden during a smoking break and then brought a lit cigarette onto the ward. One incident was classified into three categories, this occurred during a smoking break, where a patient stole a lighter from the member of staff and refused to hand it back.

#### *Nature of assault and injury*

Several types of assaults occurred. During the indoor-only smoke-free policy period, 26 incidents of patient-toward-staff violence and 17 patient-toward-patient violent incidents included acts of either pushing, kicking, spitting, punching, hitting, slapping, biting or scratching. Post-comprehensive smoke-free policy introduction, 19 patient-toward-staff and two patient-toward-patient violent incidents included these acts of violence. The remainder (n=29) either included a generic term (staff or patient was assaulted) or included throwing objects at the victim and stubbing out their cigarette on the staff member or patient. Seventeen (25.4%) of all patient-toward-staff and 15 (57.7%) of all patient-toward-patient incidents did not include a record of the body affected. Where reported, the most common sites were the head and neck.

The reporting of the type of injury sustained was poor (Table 2): 45 (67.2%) of all patient-toward-staff and 14 (53.8%) of all patient-toward-patient violent incidents did not report if the victim sustained any injuries. Where reported (n=34), just over half (n=19) indicated that the victim sustained superficial injuries such as scratches, bruising and sprains, the remainder were reported to be uninjured. In an additional patient-toward-staff incident a member of staff was burnt.

**Please insert table 2 here**

#### *Containment interventions to manage violence*

Table 3 provides the frequency of the containment interventions used to manage violence during the two periods. Overall, 25 incident reports (14 patient-toward-staff and 11 patient-toward-patient incidents) included a description of one containment intervention. Forty-three patient-toward-staff and 11 patient-toward-patient incidents included more than one containment intervention. The numbers do not add up to the 93 separate incidents therefore percentages are not included. There were also 10 patient-toward-staff and four patient-

toward-patient incident reports which did not include a description of a containment intervention.

**Please insert table 3 here**

Time-out was the most frequently used containment intervention, followed by PRN medication. Half of reports included the type of medication prescribed (mostly promethazine and lorazepam). The use of NRT was reported in one incident (not included in Table 3). De-escalation, increased observation and seclusion or confinement were reported less frequently compared with the other interventions.

## Discussion

To our knowledge, this is the first study to identify and compare the antecedents and containment methods of smoking-related physical violence and how they changed over time in a mental health setting, when an indoor-only smoke-free policy was in place, followed by a comprehensive smoke-free policy. We identified fewer incidents of smoking-related violence following the introduction of the comprehensive smoke-free policy. We have demonstrated that designated smoking breaks are a source of conflict, as reported by Ratschen et al (2009), Sohal et al (2016) and Huddleston et al (2018), and, for the first time shown that eliminating breaks as part of a comprehensive smoke-free policy may remove this source of conflict. The most frequently reported containment interventions were time out and PRN medication.

Whilst the reporting of injuries was poor, of the incidents that included a description, the most frequently reported were scratches and bruising.

Throughout the study period, denying a patient's request to smoke was the most common antecedent to smoking-related violence, although there were fewer incidents after the

introduction of the comprehensive smoke-free policy. Incidents of violence arising from staff responses to patients breaching the policy slightly increased after the comprehensive policy was introduced, whereas asking for, trading or stealing smoking materials from other patients were relatively similar throughout. Our findings indicate that within this organisation, the patterns of antecedents to violence changed according to the policy environment.

In relation to the wider literature, restricting patient's freedom and denying their requests are frequent antecedents of violence across in-patient settings (Papadopolous et al. 2012).

Previously, restricting freedom to smoke has been identified as an antecedent to violence.

Across 11 acute psychiatric wards in Taiwan, Chou et al. (2001 & 2002) found in their earlier study that 68 of 595 (11%) incidents of patient-toward-staff physical and verbal violence and in their later study 111 of 529 (21%) incidents of patient-toward-staff physical and verbal violence, occurred because of placing restrictions on smoking. Smoking in areas where it is prohibited and the trading of cigarettes among patients have also been cited as reasons for verbal and physical violence in relation to smoke-free policies (Sohal et al. 2016).

Designated smoking breaks were routine in this organisation during the indoor-only smoke-free policy period where patients congregated in confined outdoor spaces every 1-2 hours for an average of 19 minutes at a time to smoke (Robson et al. 2016). Environments associated with smoking or visual imagery of smoking materials can be a cue to smoke or elicit cravings to smoke (Wray et al. 2011; Conklin et al. 2008). Smoking breaks in ward gardens can act as cues to smoke or evoke cravings, in that smokers and ex-smokers anticipate or remember smoking in these settings at certain times. Removing visual cues such as smoking shelters and ashtrays from grounds may also have removed triggers to smoke, and hence contributed to changes in the antecedents to smoking-related violence. Cue reactivity about smoking has been

extensively researched (Wray et al. 2011, Conklin et al. 2008) but not in the context of mental health hospitals and a smoke-free policy and is worthy of investigation.

A comprehensive smoke-free policy on its own is not enough to prevent violence related to smoking, though in our study a comprehensive policy appears to be more effective than an indoor-only policy at doing so, a finding supported previously (Lawn & Pols 2005).

The reporting of injuries sustained by victims of violence was poor. It is plausible that where there were no reports, there were no obvious injuries sustained. Our findings about the type and site of injury are similar to a previous study which evaluated 553 incident reports of injuries at work resulting in formal sick leave from 25 mental health organisations in the UK (Renwick et al. 2016). The authors found that more than half of the injuries consisted of bruising, strains and sprains. Additionally, the most commonly affected part of the body was the head and neck.

In our study, more than one containment method was used in response to most of the incidents, although we were unable to identify their sequence and their contribution to resolution. The use of sedative PRN medication was frequently used to contain smoking-related violence, though this appeared to reduce post comprehensive smoke-free policy. This is a common containment method in inpatient mental health settings (Ross et al. 2012).

Previous evaluations of PRN use before and after implementation of a smoke-free policy found either an increase or no change in the use of PRN. Velasco et al. (1996), reported a significant increase in PRN immediately following the introduction of a comprehensive smoke-free policy but no significant difference was identified two years post-policy introduction. However, Cormac et al. (2010), reported the use of PRN did not change one and three months following comprehensive smoke-free policy implementation in a secure hospital setting. It is possible



that staff misattribute signs and symptoms of tobacco withdrawal for a deterioration of mental health symptoms (Lawn & Campion, 2013). This is plausible in the early stages of introducing a comprehensive smoke-free policy whilst staff are trying to acquire new knowledge and skills to treat tobacco dependence. We identified only one incident report which contained information about offering the patient NRT. It is likely that this was recorded on the patient's drug chart and not in Datixweb, however, we did not have access to drug charts for this study. Future research could test the associations between prescribing stop smoking medication, mental health symptoms and violent behaviour.

We also found that time-out was frequently used to contain violent incidents and seclusion was used in a small number of incidents. Time out is a less restrictive intervention, can be just as effective in containing violence compared with seclusion (Bowers et al. 2012<sup>b</sup>) and more acceptable to patients than more coercive and restrictive methods (Whittington et al. 2009). However, as an intervention on its own it may not be suitable if a patient is experiencing tobacco withdrawal.

Preventing a situation deteriorating into violence requires a competent workforce. Negotiation skills and giving autonomy to patients in other areas during an inpatient stay might help reduce conflict or compensate for the restrictions arising from policy implementation (Bowers, 2014). This includes ensuring that patients who smoke have access to, and fingertip control of NRT or other less harmful nicotine delivery systems such as e-cigarettes (Robson & McEwen 2018).

Our study is limited by our reliance on the content and quality of staff reports and lack of access to clinical notes and drug charts. Additionally, other factors which are known to moderate the risk of violence such as staff behaviour (e.g. teamwork, consistency in applying the policy and role modelling) (Bowers, 2014) were not available to us. Future research would

need to ascertain this information. The sample are taken from one organisation during the early phase of comprehensive policy introduction, we have therefore only captured early experiences of smoking-related violence and its containment for comprehensive smoke-free policies. Anecdotal reports from patients and staff reveal that there were inconsistencies with adherence to the comprehensive smoke-free policy in the early stages of introduction. We know from our clinical experience within this organisation that staff have developed more confidence and competence over time to manage tobacco dependence and consistently apply the policy.

Researchers were not blinded to pre-post categorisation of incident reports because these data had already been extracted by one of the two coders from our previous study (Robson et al. 2017). However, as previously stated, two researchers coded the data independently and quality checks were carried out. We found fewer incidents of smoking-related violence during the comprehensive-policy period than the indoor-only policy period, but cannot infer causality because we have not adjusted for the inpatient clinical population during these two periods (Robson et al. 2017; Spaducci et al. 2018). Whilst this study identified the frequency of the antecedents of smoking-related violence including staff response to breaches of smoke-free policy and staff denying a patient request to smoke, we could not include the number of incidents occurring within such categories that did not lead to violence. A previous study by Huddleston et al. (2018) compared all incidents of policy breaches separately to incidents of smoking-related violence arising after the comprehensive policy was implemented. They found that breaches occurred at a much higher frequency in the period of a comprehensive smoke-free policy compared to the indoor-only smoke-free policy period. Future research could look at comparing why some breaches lead to violence and others do not. Finally, this study was undertaken from the staff's perspective of understanding the nature of smoking-related

violence. The patient's perspective of why smoking-related violence occurs, their experience of interacting with staff about smoking and their experience of the containment measures used to manage violence was not examined and is an area that could be explored in future research.

## Conclusion

Transitioning from an indoor smoke-free policy to a comprehensive policy in one mental health organisation changed the pattern of the antecedents of physical violence related to smoking, with fewer incidents of denying a patient's request to smoke and a greater number of incidents involving staff responding to breaches occurring after the introduction of the comprehensive smoke-free policy. The prohibition of smoking breaks also potentially removed a source of violence. Recognising the triggers to smoking-related violence is an essential first step to prevent and manage potential violence without recourse to containment interventions.

## Relevance for clinical practice

Detailed guidance for staff about how to prevent or contain smoking-related violence should be included in hospital smoke-free policies and in prevention and management of violence policies. This should include guidance for staff about how to respond therapeutically and compassionately to patient requests to smoke or when a policy breach occurs. Compensating for the restrictions on smoking such as giving patients more autonomy in other areas of their care (Bowers et al. 2014) may also minimise conflict. Education and training to enable staff to routinely and repeatedly offer NRT or ensure e-cigarettes are accessible and used correctly is also necessary, so that staff prevent and treat tobacco withdrawal rather than use sedating medication.

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**Table 1: Number and percentage of incidents in each antecedent category**

Categories of antecedents	Indoor policy (n=60)	Comprehensive policy (n=32)	Total (n=92)
<b>Single Antecedent category</b>			
1. Patient request to smoke denied by staff, n (%)	18 (30.0)	10 (31.3)	28 (30.4)
2. During supervised smoking break, n (%)	22 (36.7)	0	22 (23.9)
3. Staff response to breach of smoke-free policy, n (%)	7 (11.7)	11 (34.4)	18 (19.6)
4. Asking for, trading or stealing smoking materials, n (%)	8 (13.3)	7 (21.9)	15 (16.3)
<b>Number of combinations antecedent categories</b>			
1 & 2	1	0	1
1 & 3	0	1	1
1 & 4	0	1	1
2 & 3	3	0	3
2 & 4	1	0	1
3 & 4	0	1	1
2 & 3 & 4	0	1	1

†As the incidents were only counted once per category, percentages were for antecedent categories 1-4 were included

**Table 2. Number and percentage of injuries sustained and body site**

	Indoor policy		Comprehensive policy		Total
	Patient toward staff (n=42)	Patient toward patient (n=19)	Patient toward staff (n=25)	Patient toward patient (n=7)	n=93
<b>Body site</b>					
Head and neck, n (%)	12 (28.6)	3 (15.8)	4 (16.0)	2 (28.6)	21 (22.6)
Arms and shoulder, n (%)	8 (19.0)	2 (10.5)	4 (16.0)	2 (28.6)	16 (17.2)
Trunk, n (%)	3 (7.1)	1 (5.3)	0	0	4 (4.3)
Legs and feet, n (%)	2 (4.8)	0	1 (4)	0	3 (3.2)
Several sites, n (%)	5 (11.9)	0 (0)	11 (44.0)	1 (14.3)	17 (18.3)
Not reported, n (%)	12 (28.6)	13 (68.4)	5 (20.0)	2 (28.6)	32 (34.4)
<b>Injuries</b>					
Superficial injuries, n (%)	9 (21.4)	3 (15.8)	5 (20.0)	2 (28.6)	19 (20.4)
Burns, n (%)	1 (2.4)	0	0	0	1 (1.1)

Uninjured, n (%)	5 (11.9)	4 (21.0)	2 (8.0)	3 (42.9)	14 (15.1)
Not reported, n (%)	27 (64.3)	12 (63.2)	18 (72.0)	2 (28.6)	59 (63.4)

†As the incidents were only counted once per category in Table 2, percentages were included

**Table 3. Number of containment interventions used to manage the smoking-related violent incidents**

	<b>Indoor policy</b>		<b>Comprehensive policy</b>		<b>Total</b>
	Patient toward staff	Patient toward patient	Patient toward staff	Patient toward patient	All incidents
<b>Time out</b>	<b>26</b>	<b>12</b>	<b>15</b>	<b>4</b>	<b>57</b>
<b>PRN medication:</b>	<b>16</b>	<b>11</b>	<b>13</b>	<b>0</b>	<b>40</b>
- Oral only	2	4	2	0	8
- Intramuscular (IM) only	2	1	3	0	6
- Combination of both	1	1	3	0	5
- Unspecified	11	5	5	0	21
<b>Restraint:</b>	<b>17</b>	<b>3</b>	<b>16</b>	<b>0</b>	<b>36</b>
- Arm hold only	7	2	6	0	15
- Supine/prone position only	2	0	5	0	7
- Combination of both arm and supine/prone	5	1	2	0	8
- Unspecified	3	0	3	0	6
<b>De-escalation</b>	<b>15</b>	<b>9</b>	<b>9</b>	<b>1</b>	<b>34</b>
<b>Observations</b>	<b>4</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>12</b>
<b>Seclusion or confinement</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>7</b>