

In this article...

- Research into prisoners' healthcare, specifically relating to burn injuries
- How a burns centre collaborated with prisons to improve care and referrals
- Case study of a prisoner receiving physical and mental healthcare following a burn

A collaboration to improve access to specialist burn care for prisoners

Key points

Equitable access to specialist burns care for prisoners is essential

A partnership was formed between prison healthcare staff and the Welsh Centre for Burns

An education programme increased prison staff's knowledge of appropriate burn assessment, referral procedures and wound management

Closer working relationships were formed between services, although further analysis of subsequent referral statistics is required

Authors Nerys Williams and Louise Giles are lecturers, College of Human and Health Sciences, Swansea University; Liz Brown is clinical nurse specialist, Welsh Centre for Burns and Plastic Surgery, Swansea Bay University Health Board.

Abstract In response to an increase in the referrals made from prisons to the Welsh Centre for Burns and Plastic Surgery, a review was undertaken that revealed gaps in prison healthcare staff members' knowledge of appropriate referral procedures and wound management. This resulted in the establishment of an ongoing educational programme delivered by an outreach nurse to three hospitals in South Wales, which has improved working relationships and the delivery of specialist burn care to prisoners.

Citation Williams N et al (2021) A collaboration to improve access to specialist burn care for prisoners. *Nursing Times* [online]; 117: 2, 32-34.

In 2017 there were over 85,000 prisoners in England and Wales, with 25,000 assaults during the reporting period of 2015-2016 (Allen et al, 2017). In 2017-2018 this increased by 16% (Ministry of Justice, 2018), while 50% of the prison population reported feeling unsafe at some point during incarceration (Her Majesty's Chief Inspector of Prisons for England and Wales, 2018).

In South Wales, there are two public prisons – each run by Her Majesty's Prison and Probation Service – and one private prison, run by G4S. Collectively, the three

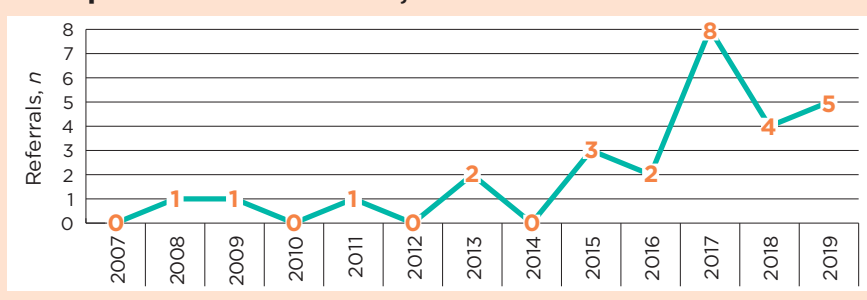
house approximately 2,600 male inmates (Allen et al, 2017) and all fall in the catchment area of the Welsh Centre for Burns and Plastic Surgery (WCBPS), based at Morriston Hospital, Swansea. In 2017, patient referrals from the three prisons to WCBPS increased fourfold compared with the previous year; this prompted the burns outreach nurse to investigate the situation, identify the cause and develop measures for improvement.

Equitable access

Lack of referral to an appropriate specialist burn care team can result in poor outcomes (Carter et al, 2018). The Human Rights Act 1998 specifies parity for the prison population in relation to accessing specialist care as a fundamental right. However, health inequalities have increased since 2006; this was when the NHS was given responsibility for prison healthcare in England and Wales, and a duty to provide services equivalent to those in the community (Till et al, 2014).

Woodall and Freeman (2019) stated that the NHS should continue to work with Her Majesty's Inspectorate of Prisons to ensure

Fig 1. Welsh Centre for Burns and Plastic Surgery referrals from three prisons in South Wales, 2007-2019



Clinical Practice Innovation

“The outreach nurse’s subsequent visits to reassess the burn enabled further discussion about the prisoner’s mental health”

a significant impact on:

- Health inequalities;
- Health promotion;
- Disease prevention;
- Improvement of processes.

Adopting an established, impartial framework as a referral guide should also facilitate fairness and supports good clinical practice (National Network for Burn Care, 2012).

Preliminary audit

We undertook an audit to gather data about the burn injuries sustained by prisoners; to do this, we accessed the Phoenix and International Burn Injury Databases, both of which collect information about burn referrals in England and Wales. The audit identified 18 patient referrals between 2007 and 2017 from three male prisons in South Wales (Fig 1).

The audit showed that 60% of the burns were sustained by prisoners aged 21-39 years. Of all burns, 94% were scalds and 6% were contact burns; 56% of the burns occurred due to an assault and 44% were accidental. The range of total body surface area (TBSA) affected was 1-8%, with a mean average of 2.89%. The depth of the burns sustained – as per the classifications used in the UK, which are outlined in Table 1 – varied; the breakdown is shown in Fig 2.

Of the 10 burn injuries resulting from assault, eight received immediate first aid from the prisoner themselves, in the form of cold-water application; the remaining two received no first aid at all. Four of the 10 prisoners had concurrent trauma, including maxillofacial injuries, which required specialist treatment alongside the treatment for their burn injury. In four of the cases, the perpetrator of the assault was an inmate with a documented history of mental ill health.

Treatment costs

We collated data on the costs of treatment for the burn injuries over the 2007-2017 period, and compared and adjusted tariffs (with exchange rates and inflation considered) from those derived by Hemington-Gorse et al (2009). These ranged from £250 to £3,500 per patient (Fig 3).

Table 1. Classification of depth of burns in the UK

Depth of burn	Layers of skin affected
Superficial epidermal	● Epidermis
Superficial dermal (partial thickness)	● Epidermis ● Upper layers of dermis
Deep dermal (partial thickness)	● Epidermis ● Upper and deeper layers of dermis
Full thickness	● All the layers of skin to subcutaneous tissues ● Can extend into muscle and bone

Source: Adapted from: Bit.ly/NICEBurns

Fig 2. Depth of burns sustained by prisoners in the audit

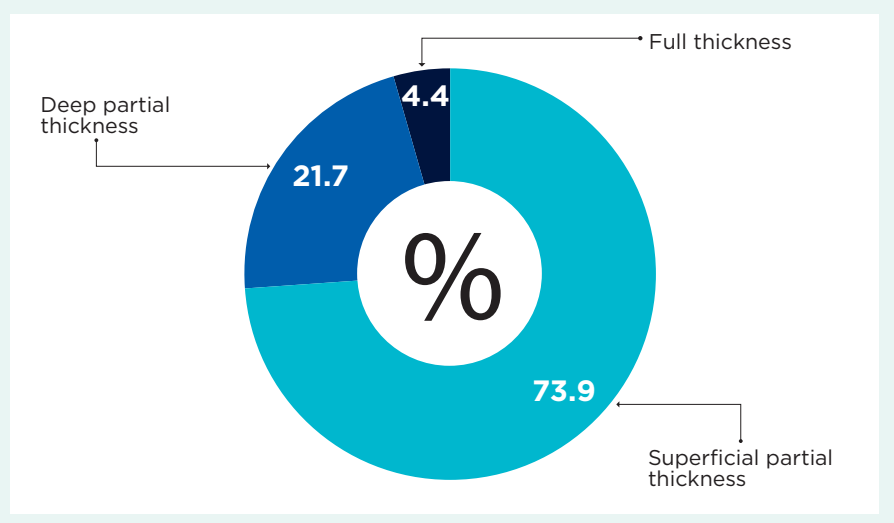
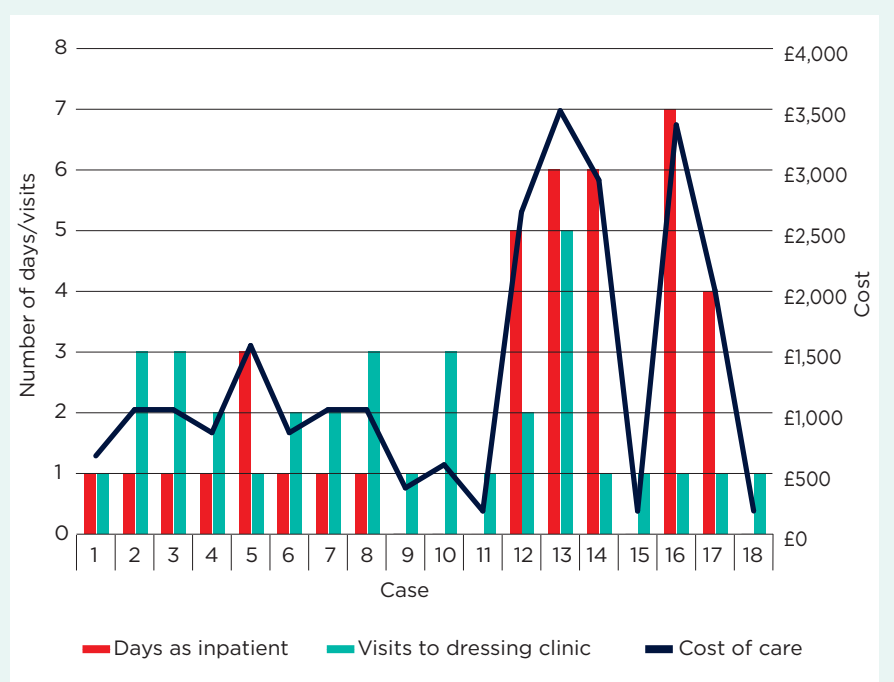


Fig 3. Cost^a per prisoner who sustained a burn injury (n=18)



^aExchange rate, 2018

We considered the cost of treating burns in comparison with that of providing information and education for healthcare staff in prison, with a view to improving initial treatment and timely referral of prisoners who have sustained burn injuries. A retrospective review by Ahn and Maitz (2012) calculated the cost of treating an adult with burns to be A\$7,100 (approximately £3,911). They concluded that education and injury prevention would have a larger impact on cost reduction than changes to management protocols in prisons.

Developing a collaboration

The National Network for Burn Care's (2012) guidance specifies the types of burn that should be referred for specialist assessment, including burn location, size and cause (Box 1). To establish the level of burn-care awareness among prison healthcare staff, we held open discussions with staff in the three prisons in South Wales, and identified a gap in their understanding of referral criteria and the initial management of burn injuries. This resulted in the prisons' healthcare staff either not referring prisoners who required specialist assessment by a burn injury service or making inappropriate referrals.

Subsequently, a collaboration was established between prison healthcare staff and WCBPS, with the aim of supporting the prisons to achieve:

- Effective first aid and initial management of burn injuries;

Box 1. Burn referral guidance

Adult burn services

The following should be referred to adult burn services:

- All burns $\geq 3\%$ of total body surface area
- All full-thickness burns
- All circumferential burns
- Any burn that has not healed after two weeks

Specialised burn care services

The following should prompt a discussion with a specialised burn care service:

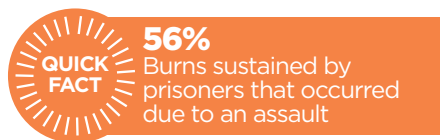
- All burns to hands, feet, face, perineum or genitalia
- All chemical, electrical or friction burns
- Any concerns about burn injuries and comorbidities that may affect treatment or healing of the burn

Source: National Network for Burn Care (2012)

Box 2. Case study

One prisoner sustained a burn injury within 48 hours of arriving at the prison; he was assaulted with scalding water while in the bathroom, sustaining superficial partial-thickness burns to his back and shoulder. Staff referred him to the Welsh Centre for Burns and Plastic Surgery, and it was agreed that the outreach nurse would visit the prison to undertake an initial assessment and develop a care plan.

The arranged visit took place in the prison's health centre, where the prisoner said he felt able to speak freely about the impact of the assault and subsequent injury; he described feeling anxious and afraid, and said the physical pain added to a general feeling of low mood. The outreach nurse's subsequent visits to reassess the burn enabled further discussion about the prisoner's mental health, resulting in a referral to WCBPS' consultant psychologist. This further engagement with multidisciplinary team members ensured all aspects of the individual's experience of sustaining a burn were met, regardless of him being a prisoner.



- Appropriate referrals;
- Ongoing wound care management.

An educational package was developed to reduce the number of inappropriate referrals to, and outpatient appointments at, WCBPS. An outreach nurse delivered a teaching session twice a year in each prison, explaining when, and how, individuals should be referred for specialist assessment and treatment. The sessions also provide an opportunity for prison healthcare staff to ask questions and have broader discussions about burn care and the general management of patients with burn injuries.

Outcomes

One outcome of the educational initiative was the closer working relationship that developed between the outreach team and prison staff; this led to the outreach team making regular visits to support prisoners and staff, and avoid unnecessary visits to hospital. When prisoners needed specialist burn-injury assessment, it could now take place in the prison rather than the hospital.

The collaboration supported the development of effective communication between services, therefore, facilitating appropriate referrals. This is shown in the case study (Box 2), which also illustrates a valuable element of the initiative: the importance of ensuring equitable access for the prison population to specialist services, without judgement or bias.

Conclusion and next steps

Adopting an educational approach to enhancing prison healthcare staff's fundamental knowledge of burn assessment and

care facilitated an increased awareness of established protocols and national guidelines. This has helped make sure that prisoners affected by burns experience parity and equality; the project's main aim was just this – to ensure that prisoners in South Wales who sustain a burn injury, regardless of its cause, have equal access to specialist services, if required, as the general public.

Teaching is ongoing and, since 2017, sessions have been undertaken within all three prisons twice per year. The initiative has led to more cohesive working relationships between staff in the prisons and the WCBPS; however, it is more difficult to establish whether an increase in knowledge has resulted in more appropriate burn referrals. Although the number of referrals in 2018 and 2019 was lower than in 2017 (Fig 1), further analysis is required in order to establish whether these referrals were made appropriately as a direct result of the education provided. **NT**

References

- Ahn CS, Maitz PKM (2012) The true cost of burn. *Burns*; 38: 7, 967-974.
- Allen G et al (2017) *Prisons Statistics, England and Wales*. House of Commons Library.
- Carter NH et al (2018) Assessment of outreach by a regional burn center: could referral criteria revision help with utilization of resources. *Journal of Burn Care and Research*; 39: 2, 245-251.
- Hemington-Gorse SJ et al (2009) Burn care costing: the Welsh experience. *Burns*; 35: 3, 378-382.
- Her Majesty's Chief Inspector of Prisons for England and Wales (2018) *Annual report 2017-18*. Her Majesty's Inspectorate of Prisons.
- Ministry of Justice (2018) *Safety in Custody Statistics, England and Wales: Deaths in Prison Custody to June 2018 Assaults and Self-harm to March 2018*. MOJ.
- National Network for Burn Care (2012) *National Burn Care Referral Guidance*. NNBC.
- Till A et al (2014) The development of equivalence as a mechanism to improve prison healthcare. *Journal of the Royal Society of Medicine*; 107: 5, 179-182.
- Woodall J, Freeman C (2019) Promoting health and well-being in prisons: an analysis of one year's prison inspection reports. *Critical Public Health*; 30: 5, 555-566.