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## Deliberate firesetting: an international public health issue



Deliberate firesetting represents a prominent and enduring problem worldwide. In the past 10 years, deadly large-scale fires, involving deliberate ignition, have been seen across Europe, South America, Australasia, Russia, and the Middle East (table). These fires have resulted in hundreds of human injuries (such as burns and smoke inhalation) and fatalities, as well as widespread psychological trauma for communities—including fire service professionals—who have witnessed or been victims of these blazes. Yet, deliberate firesetting presents a much wider international public health concern outside of these large-scale incidents. For example, each year in England, there are approximately 76 100 deliberately set fires, 1030 fire-related casualties, and 50 fire-related deaths.<sup>1</sup> In the USA, an estimated 261 330 deliberate fires were reported annually between 2010 and 2014, resulting in 440 deaths and 1310 casualties,<sup>2</sup> with similarly high annual rates reported in Australia.<sup>3</sup>

A substantial proportion of deliberately set fires are started by children and adolescents, with up to a third of young people in community samples reporting that they have been engaged in this behaviour.<sup>4</sup> In the USA, between 2007 and 2011, an average of 49 300 fires were set that involved child “fire play”, resulting in 80 deaths and 860 casualties.<sup>5</sup> Furthermore, deliberate firesetting is recognised as a specific risk factor for paediatric burn injury in young children,<sup>6</sup> and fire-related burns were reported among the leading causes of death worldwide for children and young people in 2012.<sup>7</sup> However, deliberate firesetting is not a behaviour that is engaged in solely by children and adolescents; adults are reported to be responsible for approximately half of all recorded deliberate fires.<sup>8</sup>

Although experimentation and fire play are commonly reported reasons for fire misuse by children and young people, deliberately started fires by adults can represent a form of self-directed violence (eg, self-immolation, non-lethal burning) or directed violence towards others (such as setting fire to an occupied building). In addition to the intentional harm caused by some acts of deliberate firesetting, people are frequently harmed unintentionally by this behaviour as the end result is often out of the perpetrator’s hands. However, for those who are either deliberately or unintentionally harmed as a result of a

deliberately set fires, the effect on both their physical health and mental wellbeing is often substantial.

Despite its serious impact on health and wellbeing, deliberate firesetting is typically considered a criminal justice issue, associated with the offence of arson. However, given the striking effect that it has on human health and wellbeing, we argue that deliberate firesetting is also a key cause of concern for public health services. Prevention and intervention efforts for deliberate firesetting have historically rested with the Fire and Rescue Service and the criminal justice system, respectively. However, there has been a distinct lack of research on identifying the risk and protective factors associated with deliberate firesetting, making it difficult to effectively target at-risk groups and design and develop behaviour change interventions to address this behaviour. The initiatives that do exist appear to take the form of either fire safety education (such as public information and national media campaigns aimed at parents and young people, home safety visits, school workshops, and juvenile firesetting intervention programmes) or psychological interventions (eg, social skills training, behavioural conditioning, and cognitive behavioural therapy). However, the availability and evidence for the effectiveness of these prevention and intervention initiatives is still poor.

Evidence-based prevention and intervention approaches are central to addressing and reducing issues that substantially effect public wellbeing; therefore, we call upon clinicians, academics, health providers, government departments, and policy makers to recognise deliberate

	Year	Details
Victoria, Australia	2009	Large number of bushfires, some deliberately ignited; 180 fatalities and 414 people injured
Mount Carmel, Israel	2010	Large forest fire, suspected human ignition; 44 fatalities and dozens of non-fatal injuries
Comayagua Prison, Comayagua, Honduras	2012	Fire suspected to have started deliberately in a prison cell or as the result of careless discard of smoking materials by a prisoner; 360 fatalities
Oksochi Psychiatric Hospital, Luka, Russia	2013	Fire suspected to have been started by a patient; 38 fatalities
Central Portugal	2017	Large scale wildfires, some deliberately ignited; 66 fatalities and more than 204 injured
Mati, Greece	2018	Large scale fire with deliberate ignition suspected; at least 83 fatalities

**Table:** Large scale deadly fires involving deliberate ignition, resulting in more than 30 fatalities in 2009–18

firesetting as the public health issue that it is, and to adopt a public health approach to tackling this international problem. Failure to treat deliberate firesetting as a public health issue has serious ramifications, including continued unnecessary fatalities, life changing injuries, and widespread community trauma. Furthermore, if deliberate firesetting is not recognised and treated as a public health issue, meaningful progress cannot be made in the prevention of this behaviour and to reduce the devastating effects it has on the physical and mental wellbeing of so many people internationally.

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We declare no competing interests.

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