This response is based on research carried out on a population of homeless people in Glasgow and on clinical experience of the provision of services to the homeless. The focus is on the high prevalence of brain injury (head injury) found in the homeless and the consequences of this.

**Multiple and Complex Needs**

There is a small but growing body of research that indicates an association between head injury and later becoming homelessness and also a high risk of head injury once homeless. Severe head injury has three main areas of long term effect. Cognitive impairment encompassing poorer concentration and memory, difficulty in planning and organising and in solving problems; thinking is often more rigid and people have difficulty learning from past mistakes. Changes in personality include reduced inhibition and poorer judgement, being irritable and more prone to aggression and more egocentric. These changes often have a significant impact on behaviour; people are more likely to act impulsively with little thought for outcomes, leading to risk taking and rule breaking, they can be more apathetic-never quite getting round to tasks, they often become socially isolated and are more likely to be convicted of crime (see also National Prisoner Healthcare Network Report on Brain Injury and Offending 2016; [http://www.nphn.scot.nhs.uk/consultations/](http://www.nphn.scot.nhs.uk/consultations/)).

A recent study in Glasgow (McMillan et al 2015) looked at the prevalence of admissions to hospital with a head injury in the homeless and associations with mortality as a late outcome. It compared homeless people with and without a record of hospitalised head injury and the Glasgow population. Data were obtained from a UK National Health Service strategy to enhance care of the homeless that took place over a seven-year period (2004–2010) and comprised 40 general practitioner (family practice) services in the locality of 55 homeless hostels. The register of homeless people that resulted from the service strategy was linked to hospital admissions with head injury recorded in Scottish Medical Records-01 and to the General Register of Scotland which records deaths.

A total of 1590 homeless people were registered in GP returns. The prevalence of admission to hospital with head injury in the homeless over a 30-year period was 5.4 times higher than in the Glasgow population. In the homeless with hospitalised head injury, 34% died in the short seven-year census period, compared to 14% of the homeless with no hospitalised head injury. The risk of death in the seven year period
was 4.5 times higher than in the general Glasgow population and more than twice that for the homeless with no hospitalised head injury. The risk of death in younger homeless with head injury (aged 15-34) was particularly high. Cause of death did not distinguish homeless with and without a history of hospitalised head injury. These findings suggest that hospitalised head injury is common in the homeless relative to the general population and is a risk factor for late mortality within the homeless population.

It should be noted that hospital admission is an objective indicator of the occurrence of head injury and allows these comparisons with the general population. However the homeless often do not attend hospital after an injury of this kind and the prevalence in studies using self-report is higher.

What are the implications of this work?

i) There seems generally to be a lack of awareness among workers with the homeless and the homeless themselves with regards to the risk of sustaining a significant head injury and of the consequences. Understandably there is a focus on alcohol and drug use but not on the long term consequences of brain injury and means to reduce the risk of further head injury (45% of the homeless with head injury had been admitted more than once with a head injury). There is a need therefore for education.

ii) There is a known association between domestic abuse and homelessness and between domestic violence and head injury. Hence, a need to link services for the former with brain injury services.

iii) There is a more general need to link brain injury services to services for the homeless and to improve rates of referral of homeless with head injury to brain injury services during their admission to hospital.

**Permanent Accommodation**

Given that the homeless are at higher risk of hospital admission with head injury, it is not surprising to find that some of these injuries are very severe and can prevent independent return to the community. If discovered by brain injury services they would be considered for a period of neurorehabilitation to facilitate their independent living and quality of life but it can then be difficult to find appropriate sheltered accommodation, given that by this time they may no longer seek alcohol or drugs and do not suffer from a formal mental illness. This can at best lead to delays from inpatient neurorehabilitation (or acute hospital stay) and at worst to discharge to an inappropriate setting.
This exemplifies the need not only for improved linkage to brain injury services, but to development of sheltered accommodation including group homes for people with brain injury.

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