**The role of the home in healthy ageing :**

**A call for public health action**

**Abstract**

Healthy ageing can be considered as a life-course process rather than as an event that only starts at a specific age. It therefore follows that all factors which impact on healthy ageing should be considered as relevant to the public health agenda. The home environment, namely the accommodation people live in, is therefore highly relevant to this situation. This paper summarises the impact that the home can have on the risks of number of health conditions including infections, accidents, mental wellbeing and non-communicable chronic disease. Public health programmes could therefore seek to maximise the potential of the home environment to reduce the risk of disease, disability and death across the full life-course. Such programmes deserve serious consideration for action.

Key words : home, public health, healthy ageing, life course

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**Introduction**

It has been long recognised that housing and health are linked (1). Housing, however, is a rather narrow term and perhaps a better conceptual framework is that of a home, which covers all types of accommodation that people may live in. Such a conceptual framework is also consistent with a specific cohort in the community who experience very poor health outcomes, namely the homeless (2). Such poor health outcomes are entirely predictable using the most basic of biopsychosocial frameworks, for example the Maslow hierarchy of needs requires that people need as a minimum some level of basic shelter (3). Whilst appreciating that basic shelter is different to having a home, the underpinning principle is that having the security of safe accommodation is crucial for health.

Public health practice requires a broad skill set from a diverse workforce. Public health has been broadly divided into three overlapping domains of practice, namely i) health protection ii) health promotion and iii) health services (4). Clearly, any determinant factor that cross cuts all of these overlapping domains will be a significant contributing factor to population health, disease risk and by extension demand on healthcare services. This of course overlaps considerably with the social model of health and there is evidence that giving people a safe, secure and healthy home will contribute enormously to the public health agenda. Let’s firstly consider each of these overlapping domains individually.

**Health protection :** As a working definition of health protection, it can be considered as the ‘*protection of individuals, groups and populations through the effective collaboration of experts in identifying, preventing and mitigating the impacts of infectious diseases and of environmental, chemical and radiological threats*’ (5). The home environment cuts across of all these, for example with respect to infectious disease then both indoor air quality, clean surfaces and water sanitation are key factors (6).

As to environment, climate change is a massive threat to human health and having homes that are energy efficient so as to keep occupants at optimum temperatures will be crucial (7). With respect to chemical, then clearly there are two major risks, namely ambient external pollution and also chemicals in the home such as carbon monoxide levels (8).

Then finally, radiological threats where homes can obviously shelter occupants from sun rays and also in areas of high radon gas, a by-product of natural uranium which increases lung cancer risk, mitigation strategies are needed (9).

**Health promotion :** A lot of behaviours harmful to health may take place in the home, for example smoking tobacco products. Not only is this a risk to the active smoker directly, with well documented increased risks of vascular disease and cancer, but also to other occupants via second hand ‘passive smoking’ (10). Third hand smoke is also a potentially harmful and emerging public health threat, relating to the deposit of carcinogens in fabrics like curtains.

Very rightly, public health often focusses on the ‘waking behaviour’ such as smoking, alcohol intake, diet and exercise. It appears, however, that public health programmes have neglected the ‘non-waking behaviour’ namely sleep (11). Sleep is a major factor in health and inadequate levels of it are associated with increased risks of multiple non-communicable chronic diseases including cancer, respiratory disease, dementia, mental health conditions, musculoskeletal disorders and a wide range of metabolic illnesses such as type 2 diabetes (11). Sleep is influenced by multiple factors including the home environment of indoor air quality, temperature, lighting and noise levels (12).

**Health services:** The home is a key element in the efficiency of health services. One such consideration is the fact that a lot of healthcare is now delivered in the home through community services which can span both the beginning of life via health visitors for young babies as well as the end of life with palliative care. Health services therefore need to ensure all home visits are to safe premises.

The home is also a significant factor in demand on health services. Accidents at home, such as a fall which can lead to a hip fracture (13), are clearly important and there are a range of other risks including fire hazards and electrical safety. Perhaps one of the biggest demands on health systems relate to living in a cold home, especially during winter time when outdoor temperatures are low.

Very appropriately, health services promote winter vaccination programmes such as influenza yet cold homes, which are also associated with significant demands on health services, receives considerably less attention. There is evidence that interventions that boost indoor home warmth reduce hospital admissions for a range of conditions and most notably from respiratory disease (14). Health services therefore clearly have a vested interest to engage on such issues.

**Closing remarks :** It could be argued that the creation of a healthy home environment is a key and core public health duty. The delivery of programmes to achieve this has huge potential to improve the health of community and it would also impact on the circular economy by boosting sustainable employment. For example, the retrofitting of current homes to improve indoor warmth, which could benefit the health of the occupants, requires a skilled trade and stimulates the employment sector. In addition, the need to build affordable new homes in an environmentally sensitive manner also has economic consequences which could be beneficial by providing job opportunities.

To underscore just how important having a safe home accommodation is, a very recent systematic review has found that having insecurity of long-term occupancy is associated with negative impacts on the health children and young people (15). Without such security, adults may also risk isolation and as a topic worthy of a separate paper, loneliness is also a determinant of poor health. Hoarding behaviours leading to cluttered home is also a factor associated with poor health outcomes.

So what next? Health services should now pro-actively engage with wider partners in order to develop programmes of work that focus on the home environment. With the right will, this could happen very quickly at operational level. Strategically, a national policy to progress this might now be timely.

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