## Health behaviours joint strategic needs assessment literature review

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## Introduction

This short report on stress – including self-harm and suicide – completes a suite of literature review documents around the seven health behaviours incorporated in the joint strategic needs assessment (JSNA).

It complements the secondary data analysis report which can be found on the JSNA publications page with final health behaviours report.

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## Stress

Stress is a physiological and psychological response to negative events, traumas, emotional and mental pressures. Stress occurs when external events are perceived as a threat or danger. This leads to an increase in cortisol and adrenaline levels, preparing the body for a 'flight or fight' situation. In itself this is a valuable survival mechanism, however when this is continuous or accumulative it can exceed the adaptive capacity of an individual.

There are many risk factors for stress and these can include:

- poverty;
- unemployment and/or low income;
- lower social status;
- low education levels;
- pre-existing or ongoing medical conditions;
- lack of perceived control in a person's life alongside poor coping skills/low self-esteem;
- social isolation;
- family circumstances;
- urbanisation and public realm, including perceptions of safety/crime; and
- noise, air and climate pollution.

These stressors can be acute or chronic and can be debilitating by having a major negative impact on physical and mental health. Research on stress and health identifies how negative events are more strongly associated with poor physical and mental health, whilst prolonged or extreme stress can lead to anxiety, depression or more serious mental health conditions.[1]

The figure below shows how the wider determinants of health are interlinked and how many of these factors have parallels to life stressors.[2]

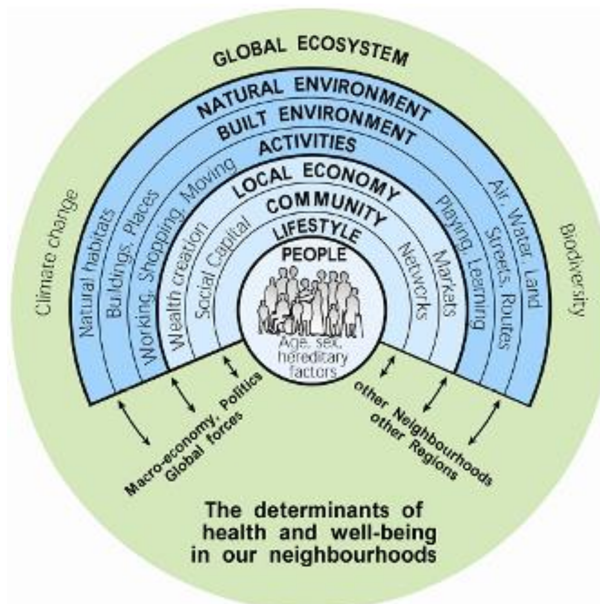



Figure 1: Wider determinants of health and wellbeing. A Social Model of Health (Dahlgren & Whitehead, 1991)

The higher the number of negative/stressful events experienced by an individual increases the possibility of injury, illness or disability. However, not all people experiencing stressful events, or a high number of events will become ill. The health impacts of stressful events can be buffered and reduced by other factors such as high self-esteem, resilience, personal control and social support.

Individuals with lower education, income and socioeconomic status have higher rates of morbidity, mortality, disability and mental disorder than those in a higher socioeconomic position and tend not to have the coping resources to deal with stress.[3] Other research has consistently shown females, young adults, individuals from minority ethnic groups, divorced and widowed people, and poor and working class individuals have significantly more stressors overall during the course of a lifetime.[4]

With regards to physical conditions the link between stress exposure and long-term illness such as cancer incidence has not been clearly established.[5] A recent study found no association with lifetime traumatic events and cancer however, there are conflicting findings from other studies.[6-7] What is widely accepted is stress – and the factors linked with stress – can lead to behaviours such as drinking, using drugs and smoking as coping mechanisms. This can increase the risk of cancer and other disease through the adoption of the negative behaviours.

**Alcohol, tobacco and drugs**

People may use alcohol as a coping strategy for dealing with the many stresses experienced in life. Both men and women reporting higher levels of stress in the general population drank increased amounts of alcohol, with males tending to use alcohol more than women.[8] The relationship is complicated as paradoxically alcohol

whilst initially used as a coping strategy may cause further long-term problems, for example in relationships and employment. Childhood stresses can increase the risk of alcohol consumption as an adolescent and into adulthood. This risk is higher for those children who have an alcoholic parent or parents, or who have experienced dysfunctional parenting or other stress such as neglect.[9]

Stress can increase the vulnerability to addiction – research continues to identify behavioural and physiological correlates with substance abuse.[10] Like alcohol, drugs can be used as an avoidance coping strategy or for self-medication from psychological pain or stress. These can be legal or illegal drugs, such as prescribed drugs for anxiety disorders/depression, or illicit drugs (cannabis and heroin) used for a sedative effect. As with alcohol the relationship is complex, the use of drugs as a buffer against stress/mental health issues conversely leads to additional economic, personal and social difficulties, compounding the individual's life further.[11]

There is a link between problematic drug use, stress and deprivation, with a disproportionate number of problematic drug users coming from a deprived background where they experience more stressors. For individuals from a deprived background, the age of first use tends to be lower than users from other socioeconomic groups. They are more likely to experience extreme and problematic drug use, rather than casual, recreational or intermittent use of drugs. Drug users from deprived areas tend to be less likely to receive care and treatment, and their chances of overcoming drug problems are considerably reduced, further compounding other stressors and issues.[12]

The rates of smoking tend to be higher in the lower socioeconomic groups, including those with the lowest incomes. Not unexpectedly these groups also experience more smoking-related illness and have a higher rate of death from smoking - it is the single biggest cause of inequalities in death rates between the richest and poorest in the UK. Smoking is often perceived to be a stress reliever however nicotine is actually a stimulant and can increase anxiety and tension, making coping even more difficult. The relief from smoking is usually the lessening of withdrawal symptoms. Unsurprisingly, smoking cessation tends to be lower in less affluent groups, further widening the inequality between the socioeconomic groups.[13]

Smoking prevalence is also higher in certain ethnic groups (such as Bangladeshi and Pakistani men and Irish men and women), whilst the use of niche tobacco products tends to be higher amongst South East Asian men. Smoking rates are also high in certain other minority groups, such as among lesbian and gay people, which may reflect the disproportionate levels of stress within these communities.[14] Nationally 32% of people with depression or an anxiety disorder, and 40% of those with a probable psychosis also smoke.[15]

## Nutrition and physical activity

The growing rate of obesity in the UK is a major public health concern and it is accepted that the causes of overweight and obesity are complex. Stress can influence the risk for obesity, and while the relationship is not clearly established, increased levels of cortisol (the stress hormone) have been associated with central obesity.[16] Emerging evidence has suggested that stress can influence what an individual eats, dependent on how they usually eat. For those who are emotional eaters, food chosen tends to be calorically dense with the suggestion food is used to reduce the stress response or negative emotions and used as a reward. The relationship between restrained eating and stress is more complex, these individuals tend to eat less during normal conditions and overeat when stressed. Not unexpectedly, some individuals respond to high levels of stress by consuming foods high in calories, sugar, and fat, fewer main meals, and fewer portions of vegetables.[17]

Areas with poor access to healthy fresh food (including locally sourced produce), or an over concentration of hot food takeaways can compound the relationship between stress and unhealthy eating. Appropriately targeted and community-based interventions can work towards changing this situation.[18]

The effect of physical activity on mental health has been a major area of research. Physical activity may have several physiological and psychological positive effects including changes in endorphin and monoamine concentrations (feel good chemicals), and increased social contact and positive feedback from other people. The relationship between stress and physical activity is not clearly established but in some instances stress and/or mental health issues may inhibit people from engaging in physical activity, or a lack of physical activity may result in increased stress levels, or it may be a combination of the two. In a review of treatment for depression, the NICE guidelines suggest a benefit for physical activity in the treatment of sub-threshold depressive symptoms and mild to moderate depression, with group-based activities having the most benefit.[19] Physical activity also provides other physical health gains, such as maintaining a healthy weight, which in turn can reduce the risks of developing/exacerbating other conditions.[20]

## Sexual identity and sexual behaviour

The evidence regarding partaking in risky sexual behaviour as a coping strategy appears to be mixed – some studies have shown that whilst stress is not correlated with risky sexual behaviour, it could be used as a coping strategy. There is also an established relationship between the prior use of drugs or alcohol and partaking in increased-risk behaviours.

Sexuality is part of individual's identity and contributes to mental wellbeing. Failure to recognise and support people’s sexuality can undermine this identity and can result in damage to mental health (including stress).[21]

**Self-harm**

Self-harm is a behaviour, action or habit which causes damage to a person's health. This can include deliberate self-harm such as cutting, hitting, hair pulling and poisoning. It can be used as a (maladaptive) coping strategy, which in the short term provides emotional release and relief. In the long term it can cause further problems, such as serious physical/mental harm. It can also be used as a way of expressing pain, or punishing oneself or experiencing euphoria (from endorphin release). Self-harm can result in death – usually through accidental means – as not everyone who self-harms wishes to die, although a history of self-harm is one of the main indicators for suicide risk.

Self-harm can be triggered by many different factors. For example:

- social factors – relationship difficulties, social isolation, issues at work/school;
- trauma – abuse, or death of a family member/friend;
- risk-taking behaviours – including substance use; and
- mental health conditions – depression or borderline personality disorder.[22]

Overall, women are more likely to self-harm than men. This is most pronounced in adolescence, where girls may be three times more likely to self-harm than boys. Self-harm can occur at any age but is most common in adolescence and young adulthood. Self-harm occurs in all sections of the population but is more likely among people who are disadvantaged in socioeconomic terms and among those who are single or divorced, live alone, are single parents or have a severe lack of social support.[23]

The links between adult self-harming behaviour are clearly established: unemployment and social deprivation are major contributors. Housing stressors are particularly evident in deprived households. These can include issues such as overcrowding, damp and/or cold homes. In the local environment, reduced perceptions of safety and a fear of crime are also likely to contribute to depression and a lack of wellbeing.

For young people there are other underlying factors which may explain the link between wellbeing, self-harm and social deprivation. There is an association between wellbeing, a deprived household, child abuse or neglect, economic adversity, negative parenting and suicidal or self-harm behaviours. Furthermore, the diets of young people in the lower socioeconomic groups tend to be low in fruit, vegetables and quality protein sources and high in energy-dense, low quality products (junk food), which may also reduce the overall sense of wellbeing.[24]

Loneliness associated with living alone and a lack of social support are linked to self-harming behaviour. Therefore the provision of support and efforts to reduce loneliness are effective in preventing self-harm. Other protective factors include

having a supportive network – family, friends and school – alongside appropriate coping skills and strategies. Evidence has shown that individuals who employ avoidant conflict resolution strategies tend to experience more depression, anxiety, distress and interpersonal problems than a person who adopts more assertive styles of conflict resolution.[25]

Substance use, particularly alcohol consumption has been shown to be linked with increased episodes of self-harm resulting in an attendance at an emergency department.[26] Smoking has been correlated with depression and suicide risk in adults. Linked with this, children from deprived families are more likely to smoke from an earlier age, exposing themselves to the future physical and mental health risks.[27]

**Suicide**

Suicide is the intentional act of taking one's own life, where this is the only perceived way of ending an individual's suffering. Depression is one of the most common reasons a person will attempt or die from suicide. Severe depression is usually accompanied by irrational thoughts and skewed cognitions, making problem solving and coping even more difficult. Alongside the psychological pain this makes a person very vulnerable to suicidal ideation and attempts. Suicidal individuals tend to be acutely sensitive to the perceived burden they feel they are placing on their loved ones/family/society but are often unable to move past the suicide mind-set. Measures of hopelessness and helplessness can also accompany depression and are also predictive of suicide probability.

There are many risk factors for suicide including:

- gender – men are more likely to attempt or die from suicide than women;
- previous attempts – the more attempts a person has made, the more likely they are to succeed;
- history of mental health problems;
- substance use;
- trauma;
- family history of mental health issues or suicide;
- access to means (firearm deaths are lower in the UK due to tight gun control laws);
- those who are divorced or separated or socially isolated; and
- those in a lower socio-economic class.

The Office for National Statistics reports the rate of suicide amongst males is three times higher than for females.[28] This has been attributed to a number of factors, including the more fatalistic methods used by males (such as hanging or other self-directed violence) and that females are more likely to engage with psychiatric services. So whilst more women are depressed than men, more women will access support. For many men, there remains a stigma attached to their mental health needs and access to support services can be low.[29]

The most recent statistics show the suicide rate in the UK was highest amongst men aged 40 to 44 years, previously it was the younger age group (15-25 years). This has been attributed to the economic changes in the UK over the past eight years, resulting in financial concerns, redundancy, and reduced employment opportunities. Also changes in the identity and status of a man as a provider may have an effect. There has also been an increasing rate of suicide in older men (over-75), which has been attributed to depression, social isolation, bereavement and physical illness.[30]

Poor health is well established as a suicide risk, this can incorporate physical disabilities, psychiatric and substance use disorders. Many people diagnosed with a long-term condition, such as cancer, will have a suicide risk ten times higher the week after diagnosis. The increased access to prescription medications, including strong painkillers can provide the means for suicide or an attempt amongst those with a health condition. Many people with long-term conditions will experience depression; therefore support to self-manage and self-care is vital in ensuring people have the confidence to manage their conditions on a day-to-day basis. Positive coping strategies and feeling in control are associated with increased mental wellbeing and personal resilience even if physical health is poor.[31]

Poor health does not just affect the person with the condition(s). The health of a carer can be compromised through the challenges presented in caring for another person such as lack of sleep, isolation, and financial concerns. Those people who have a role as a carer tend also to face additional pressures and could be at increased risk of stress, depression and self-harm or suicide. With an increase in the older population, the number of unpaid carers in Lancashire is likely to rise and this may present unique challenges for service providers to manage both the needs of service users and their carers.[32]

Mental health issues remain a key risk factor for suicide. Whilst the figures vary, it has been estimated that almost three quarters of people who have taken their own life will have been diagnosed with a psychiatric disorder (including depression or borderline personality disorder).[33] There are also strong links between substance use and suicide; those who misuse alcohol are more likely to have higher rates of suicide as alcohol consumption can lower inhibitions, distort perceptions of risk and increase impulsive behaviour.[34]

As noted above prior episodes of self-harm or suicide attempts can be a predictor of future suicide. Therefore, identifying antecedents of deliberate self-harm can provide intelligence to guide strategies to reduce suicide rates. Research has identified some independent risk factors for future self-harm in children. These include children born to a teenage mother, inconsistent parenting styles, living in a step family, having more emotional/behavioural problems than other children and interestingly, cigarette smoking by the primary carer.[35]

Amongst some minority groups there appears to be higher risks of attempted suicide. For example, amongst individuals who are lesbian, gay or bisexual (LGB) there are increased risks due to sexual orientation, depression, relationship problems and difficulties with family. Other research suggests younger age LGB are vulnerable to suicidal ideations. Another minority group with high levels of attempted suicides is those who are transgender, particularly those who have experienced prior mental health problems. This suggests a percentage of people are vulnerable due to their sexuality or gender identity and their rights and needs may not be accommodated or protected adequately.[36]

Estimates of suicide by ethnicity show low rates for South-Asian men and women overall. There are higher rates for younger black Caribbean and black African men (aged between 13 and 24 years), younger women (25-39) of South-Asian origin, black African women and black Caribbean women. Rates of depression, mental illness and self-harm are increasing amongst women of Asian descent, which increase the rate of suicides/attempts.[37]

The suicide trends in ethnic groups may be associated with socioeconomic risk factors such as migration, social exclusion, isolation, poorer access to health, and other services and resettlement. There are high numbers of psychiatric inpatients from a minority group, particularly young males from a black heritage.[38]

There is an association between the deprivation of an area and the suicide rate. Men and women living in the most deprived areas are twice as likely as those to die from suicide when compared to those in the least deprived areas. Unemployment, which is more prevalent in deprived areas, is associated with an increase in suicide risk.[39] Some occupations, such as medicine, veterinary and agriculture tend to have higher risk as individuals have the ready access to the means for suicide (chemicals or medicines) and know how to use them. Removing highly toxic pesticides from use, for example has been shown to reduce the rate of suicides amongst agricultural workers by reducing the lethality of the substances used.[40]

People who are in prison have a much higher risk of self-inflicted injury than the general population. The link between mental health conditions of prisoners and self-harm or suicide is well established, and these can be exacerbated alongside the risk factors of drug dependency and length of stay within a prison. The removal of social support (usually from friends and family) can also increase the risk of self-harm/suicide. There has been a 64% rise in self-inflicted deaths in English prisons in 2013/14,[41] and an increase of mental health diagnosis, compared to the general population. Self-inflicted deaths are more likely amongst remand/pre-sentenced prisoners, whilst the first week in custody is considered a high-risk period.[42]

Restricting the access to means for suicide can be an important strategy for suicide prevention. These will include reducing the opportunities for:

- hanging and strangulation in psychiatric inpatient and criminal justice settings;
- self-poisoning;
- making high-risk locations safer; and
- reducing risk at rail and underground networks.[43]

Other methods of means restriction can include public realm design considerations, for example ensuring walkways/bridges alongside busy roads are safe for pedestrians and restrict access to the traffic flow. Removing access to high locations, or installing safety netting, surveillance or telephone support at suicide locations can also be used to reduce the number of people who attempt suicide. Means restriction does not necessarily lead to an increase in other methods, and the potential benefits of restraint should be considered before implementation.[44]

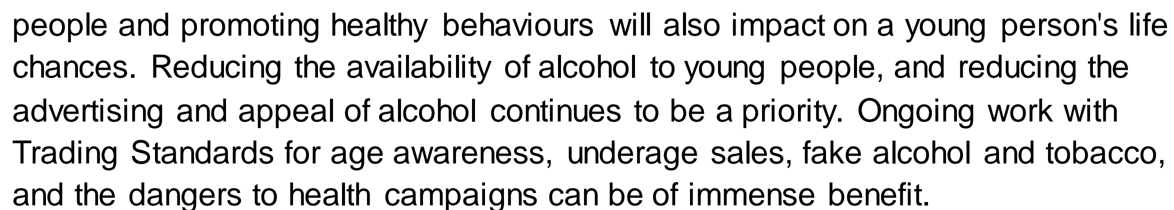
**Protective factors for health**

Social and personal wellbeing can provide an effective buffer against life stressors and contribute to good mental and physical health. All partners involved in public health can work towards implementing policy and interventions that support this aim.

Promoting the availability of social connectedness and social capital will provide the opportunity for social support, for example from the family network, friends, co-workers or the community. Effective social support networks can provide a feeling of belonging, and negate the effects of isolation and loneliness. Encouraging asset-based community development where the community identifies its own strengths and assets and takes ownership of issues in the area can also produce social capital and promote social networks. Effective coping and social support interventions should be identified and available for use by a wide range of partners, including health providers, community and voluntary groups, clinical commissioning groups, and local authorities.

The Local Government Association paper 'Public health transformation: nine months bedding in and bedding out' reviews the transfer of public health to local authority control. Amongst the case studies was a public-health commissioned income-maximisation project. A number of programmes, including financial capability training sessions, were run by a local citizen advice bureau. The objectives of these sessions were to help develop and empower residents to take control of their own personal financial situation and reduce stress and related wider determinants of health issues. An evaluation with a comparator group indicated positive behaviour changes among participants.[45]

Addressing and tackling disadvantage, poverty and familial stressors, which contribute to poorer mental and physical long-term health outcomes for children and young people is also important. Discouraging smoking and drinking amongst young



people and promoting healthy behaviours will also impact on a young person's life chances. Reducing the availability of alcohol to young people, and reducing the advertising and appeal of alcohol continues to be a priority. Ongoing work with Trading Standards for age awareness, underage sales, fake alcohol and tobacco, and the dangers to health campaigns can be of immense benefit.

Quality local planning and appropriate public realm design can increase community/public safety which can reduce crime, insecurity and stress. People who perceive their area as unsafe or affected by crime are likely to have more stressful experiences living there – including social isolation and fear – than those who rate their local community as safe. A high-standard public realm can also give people the opportunity for physical activity through access to safe and pleasant open green spaces. Alongside public realm improvements, opportunities for active travel, physical activity, access to healthy food, and leisure infrastructure is vital to create sustainable communities and neighbourhoods that facilitate the adoption of a healthier lifestyle and better physical and mental health. For example, the opportunity to walk to local shops and experience social interactions with other people should not be undervalued.

Through the planning process and with regard to core strategies adopted by local authorities there can be a positive impact on public health - improving employment opportunities, education and training can contribute to reducing poverty levels and relieve the stresses of unemployment and low income.

**Conclusion**

There are many factors which can increase or reduce levels of stress. Addressing the wider determinants of health can have a major impact on stress and may make a important difference to the lives of those who may be more vulnerable to its effects, such as young people, those from the lower socioeconomic groups, those who are experiencing poverty, or those with long-term conditions. Negative health outcomes are linked to the stress people experience and the levels of control people have over their lives. Enabling individuals and communities to have more control over their lives would reduce these outcomes and promote a healthier and more resilient society.[46]

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Research evidence was identified and included from general evidence searches, plus specific searches of three bibliographic databases: CINAHL, PsycINFO and MEDLINE. The studies were restricted by language of publication (English only), however, the geography/country was not restricted. The key terms of the health behaviours (stress, drugs, pregnancy, substance use, alcohol, tobacco, sexual behaviour, physical activity and nutrition), their synonyms, and combinations of these terms were used in the search strategies.