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# Food insecurity and severe mental illness: understanding the hidden problem and how to ask about food access during routine healthcare

Jo Smith , Suzy Ker, Darren Archer, Simon Gilbody , Emily Peckham  & Charlotte A. Hardman

## ARTICLE

### SUMMARY

Food insecurity occurs when an individual lacks the financial resources to ensure reliable access to sufficient food to meet their dietary, nutritional and social needs. Adults living with mental ill health, particularly severe mental illness, are more likely to experience food insecurity than the general adult population. Despite this, most interventions and policy reforms in recent years have been aimed at children and families, with little regard for other vulnerable groups. Initiating a conversation about access to food can be tricky and assessing for food insecurity does not happen in mental health settings. This article provides an overview of food insecurity and how it relates to mental ill health. With reference to research evidence, the reader will gain an understanding of food insecurity, how it can be assessed and how food-insecure individuals with severe mental illness can be supported. Finally, we make policy recommendations to truly address this driver of health inequality.

### LEARNING OBJECTIVES

After reading this article you will be able to:

- provide a balanced overview of food insecurity for people with severe mental illness
- demonstrate the principles of assessing food insecurity in mental health practice
- understand the complexity of food insecurity for adults with severe mental illness and the policy changes that are required in the UK.

### KEYWORDS

Food insecurity; severe mental illness; psychosis; schizophrenia; bipolar disorder.

Food insecurity can be defined as ‘a lack of the financial resources needed to ensure reliable access to food to meet dietary, nutritional, and social needs’ (Blake 2019). The history of food insecurity in the

UK indicates that it was first defined at the 1974 World Food Conference, where attending governments declared that everyone has the right ‘to be free from hunger and malnutrition in order to develop their physical and mental faculties’ (United Nations 1975). Almost 50 years after the World Food Conference’s pledge to eradicate food insecurity within 10 years (World Food Summit 1996), it remains a significant problem across the world. In January 2022, it was estimated that 8.8% of UK households (4.7 million adults) were experiencing food insecurity, compared with 7.3% in July 2021 (Food Foundation 2022). Furthermore, 3.6% of adults (1 million) have reported that someone in their household had to go a whole day in the past month without eating because they could not afford or access food; and people living with a disability are up to five times more likely to experience food insecurity than those without a disability (Food Foundation 2022).

Well before the COVID-19 pandemic, food insecurity was already a major concern in the UK. In 2014, the Children’s Society presented evidence to an All-Party Parliamentary Group to raise awareness of food insecurity (Forsey 2014). Four years later, Special UN Rapporteur Sir Phillip Alston highlighted the increasing number of people depending on foodbanks in the UK (Alston 2018). UK food banks provide emergency food parcels. They are predominantly run by volunteers. Food is donated by members of the public and a range of organisations, such as churches, supermarkets and local businesses. Despite these high-profile reviews of the evidence, it has taken the current pandemic and the persistent efforts of a professional footballer to bring the issue of food insecurity into the public and political spotlights (Child Food Poverty Task Force 2020).

In the final 2 weeks of March 2020, the start of the first national lockdown for COVID-19 in the UK,

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there was an 81% increase in the use of emergency food parcels from The Trussell Trust, a UK network of food banks (Trussell Trust 2020) and food banks reported a 59% increase in need (Independent Food Aid Network 2020). More recently, the substantial rise in the cost of living has resulted in an increase in the number of households experiencing poverty. In the winter of 2021–2022, 62% of households reported having higher energy bills compared with the previous winter (Food Foundation 2022). This is predicted to increase even more owing to planned increases in the UK energy price cap, the first of which came into force on 1 April 2022. Furthermore, people living on Universal Credit (means-tested government benefits) are up to five times more likely to have experienced food insecurity (Food Foundation 2022).

Food insecurity among children has resulted in reports of children having shoplifted for food, scavenged for food from bins, eaten tissue paper to fend off hunger, bartered for food at school, sold drugs for food and mugged other children for money for food (Finlay 2019). However, the implications of food insecurity for other vulnerable groups have been seldom considered.

Foodbanks provide emergency food packages to individuals experiencing food insecurity. These usually consist of non-perishable food items, and often they do not constitute a nutritious balanced diet. There is stigma around the use of foodbanks, and they are often only used as a last resort (Elliott 2016). Foodbanks are therefore not a long-term solution to food insecurity.

Although it is unsurprising that there is a clear link between poverty and food insecurity (Wight 2014), a wider range of factors have been linked to the likelihood of a person experiencing food insecurity. These factors do not usually occur in isolation and, when combined, can produce highly complex and stressful situations that are hard to resolve. Household income is the most prominent factor, but this is compounded by a lack of food-related knowledge or skills and problems with physical access to food (Nzuza 2016). It is important to acknowledge that the definition of poverty in relation to food insecurity includes that of in-work poverty, which occurs when a working household's total net income is insufficient to meet its needs (Hick 2017).

## How does food insecurity affect people's lives?

### *Impact on diet*

Public health guidelines, such as the UK National Health Service's EatWell Guide (a pictorial guide

which informs the public on the proportions of their diet that should come from each food group to achieve a healthy diet), encourage people to adopt a healthy diet as part of a healthy lifestyle (National Health Service 2019). However, when faced with poverty, choice becomes restricted, with less access to good-quality food. There is a clear price disparity between healthy and unhealthy food products, with one UK study reporting that (at 2012 prices) healthy options cost £7.49 per 1000 calories compared with £2.50 per 1000 calories of unhealthy products (Jones 2014). The Broken Plate report from the Food Foundation is their annual review of the state of the UK's food system. It outlines the challenges in ensuring that everyone in the UK can afford and has access to a healthy diet. The 2018 report states that 'for 53% of households in the UK, current food budgets are insufficient to meet government recommendations for a healthy diet' (Scott 2018). People who experience food insecurity often report that they want to eat healthily but cannot afford to do so (Puddephatt 2020).

Other significant barriers to consuming a healthy diet for people experiencing food insecurity include a lack of access to fresh food, and inadequate food storage and cooking facilities (Thompson 2018). 'Food deserts' are areas that are poorly served by food outlets selling fresh, healthy products and are particularly prevalent in more socioeconomically deprived communities (Beaulac 2009). In some cases, individuals and families may be housed in temporary accommodation which provides no access to cooking or food storage facilities.

### *Impact on physical health*

The foods that individuals consume can have an impact on both physical and mental health (Mental Health Foundation 2017). Food insecurity typically results in a poor-quality diet, which interweaves with the issue of healthy weight management, increasing the risk of either being underweight and at risk of malnutrition through insufficient food intake, or overweight from consuming cheaper but unhealthy food. Where food insecurity leads to a person developing obesity, these individuals are, in turn, at greater risk of long-term health conditions, including type 2 diabetes and cardiovascular disease (Penne and Goedemé, 2021).

### *Impact on behaviour and mental health*

There are multiple ways in which food insecurity can affect behaviour. People who experience food insecurity often engage in a range of strategies to conserve their food supplies. These include choosing cheap and filling foods, consuming small portions,

skipping meals altogether, cooking in bulk and prioritising children's food intake (Thompson 2018; Puddephatt 2020). In a study of 24 adults using foodbanks in the UK city of Liverpool, none of the interviewees had access to personal transport and they had to travel to cheaper supermarkets on foot (Puddephatt 2020). However, this relied on them being in good health, for example to be able to carry bags of shopping home.

General population studies highlight the mental health impact of experiencing food insecurity. Although having a chronic physical and/or mental health condition can be a precursor to food insecurity, research also shows that food insecurity itself causes considerable stress and anxiety, which can exacerbate pre-existing mental illnesses (Thompson 2018; Puddephatt 2020). Low mood and lack of energy can make it even harder to manage a limited food budget and to plan and cook from scratch (Puddephatt 2020). There is no specific evidence regarding the impact of food insecurity on psychiatric medication or treatment adherence, but there is some evidence that adults with food insecurity have a higher likelihood of cost-related non-adherence to prescription medications (Men 2019). This could have an impact on taking recommended psychiatric medication, particularly for people who are not entitled to free prescriptions.

Studies have shown that experiencing food insecurity can increase the likelihood of having a range of mental health conditions. An Israeli study reported that food-insecure individuals had higher scores than food-secure individuals on the Brief Symptom Inventory's Global Severity Index ( $P=0.005$ ) and on five out of nine of its subscales (somatisation, anxiety, phobic anxiety, paranoid ideation and psychoticism) ( $P<0.001$ ) (Grisaru 2011). A Canadian study found that people experiencing food insecurity were more likely than those who were food secure to have major depressive episodes (relative risk ratio RRR = 1.9, 95% CI 1.1–3.2) or a mood disorder with psychotic features (RRR = 3.4, 95% CI 1.6–6.9). However, they were less likely to have psychotic disorders (RRR = 0.5, 95% CI 0.3–0.9) (Lachaud 2020). In contrast, a study in the USA reported that, of participants who were food secure ( $n=436$ ), 3% had psychosis, whereas of those who were food insecure ( $n=39$ ), 15% had psychosis ( $P<0.001$ ) (Jih 2020).

Severity of household food insecurity appears to be linked with poor mental health in a dose-response manner, with experiences of severe food insecurity being associated with extreme chronic stress (Jessiman-Perreault 2017). Stress can lead to unhealthy eating behaviours, and one reason for this is that people may use food as a way of coping with distressing life circumstances. Greater food

insecurity is associated with greater psychological distress; distress, in turn, is associated with eating to cope and having a higher body mass index (BMI) (Keenan 2021). The relationship between food insecurity and body weight is not straightforward, and psychological factors and mental health need to be considered.

### What about people with severe mental illness?

Individuals with mental ill health are a marginalised population in terms of preventable physical illnesses. People with severe mental illness (SMI), including schizophrenia and bipolar affective disorder, are particularly vulnerable in terms of their physical health, resulting in a life expectancy that is 15–20 years shorter compared with people without SMI (Brown 2010). Additionally, it is widely reported that obesity is more prevalent in people with SMI than in the general population (Working Group for Improving the Physical Health of People with SMI 2016). Contributing factors include the illness itself, medication side-effects and social/environmental barriers to eating healthily and being active (Muralidharan 2020).

Adults with SMI are disproportionately affected by food insecurity. A recent systematic review (Teasdale 2021) showed that 40% of people with SMI experience food insecurity. People with SMI were also found to be 2.71 times more likely to report food insecurity than non-psychiatric controls/the general population. The odds of food insecurity in SMI were higher in high- and high-middle-income countries compared with low- and low-middle-income countries, probably owing to the high overall food insecurity rates in the general population of lower-income countries.

People with mental ill health face a significant income gap compared with those without such conditions: one UK study estimated that the majority earn almost one-third less and that just 11% of people with psychosis were in employment in 2014 (Bond 2020). The Trussell Trust notes that mental ill health is a concern reported by food banks, with an estimated 38% of people accessing them having a mental health condition (Hadfield-Spoor 2018).

People living with SMI report that food insecurity is increasingly prevalent. In a UK study on obesity in SMI commissioned by the Health and Wellbeing Alliance (Wilton 2020) interviewees reported:

'Finance is also barrier – economic barriers to accessing fresh fruit and veg. A lot of [weight management support group] users will have can of beans, toast, live on bread – cheapest available vegetables and meat.'  
'I actually really like healthy food, it's not that I don't like it, and I love cooking, it's just I think it's more with my mental health, it's just that when I'm

depressed, I get really suicidal and I don't care so I think right, I'm on the phone [for food] because I won't go out when I'm depressed.'

The syndemic nature of having an SMI in conjunction with food insecurity remains an under-researched area worldwide (Swinburn 2019). This potentially leads to food insecurity being unrecognised across health and social care systems.

### How is food insecurity currently managed in SMI clinical practice?

At present, mental health practitioners may not prioritise asking about food insecurity. There are many potential explanations for this. We have already identified a lack of evidence regarding the prevalence of food insecurity in adults with SMI in the UK. The evidence we do have is predominantly anecdotal reports from people with mental ill health as part of other work, for example the above-mentioned study on obesity in SMI (Wilton 2020). It is therefore important to raise awareness of food insecurity for clinicians working with people with SMI.

Furthermore, many people accessing food banks report a sense of social stigma and shame, being seen as 'failures'. This includes being reliant on others for their survival, being seen by other people in their local area as lacking in the choice of food they could eat and not being able to provide for their families (Purdam 2016). It may therefore be particularly difficult for people presenting to mental health services to raise the issue of food insecurity with their clinician owing to the stigma attached to it.

The lead author (J.S.) undertook some 'patient and public involvement' (PPI) work as part of a recent grant application on food insecurity in SMI. The patient representatives spoke about their experiences of food insecurity and gave examples of people wanting to remain in a psychiatric hospital

for longer than required to have access to hot meals. The work uncovered that, although it is a sensitive subject, patients would welcome an opportunity to talk to mental health practitioners about food insecurity if this would result in some support to access services.

### How can psychiatrists support patients with SMI who are experiencing food insecurity?

Psychiatrists working in teams that support people with SMI might champion the issue of food insecurity in this population, leading by example to address the wider determinants of health and provide more holistic mental health services. For example, a psychiatrist could raise awareness in their own multidisciplinary team (MDT) of the prevalence and experiences of individuals with SMI in relation to food insecurity by sharing this article or providing an update at a team meeting. They could work with their MDT to familiarise themselves with the local services that are available to support individuals who are experiencing food insecurity and establish links with these organisations. It is vital that healthcare practitioners working in mental health assess for food insecurity routinely as part of the care they provide. When food insecurity is identified, practitioners should work with the individual to identify the support that they require to access food. As identified in the clinical vignettes in Boxes 1 and 2, this is often a complex matter and needs to be person-centred and tailored to individual circumstances and needs.

#### Assessment

We encourage healthcare practitioners to assess food insecurity as part of an assessment of the social determinants of health. Taking these wider determinants into consideration may itself prevent an individual from becoming severely food insecure. There are various tools available to assess food

#### BOX 1 Clinical vignette: food insecurity and overweight in severe mental illness

Patient A is a 56-year-old male with schizophrenia. He lives alone and has very little social support. He is in receipt of Universal Credit but was declined Personal Independence Payment. He is prescribed olanzapine and has gained a significant amount of weight over the past 5 years. His current body mass index places him in the obesity category. He finds it difficult to afford food and therefore buys the cheapest foods he can find in the local shops. He does not have transport and therefore shops in his local convenience store, which is within walking distance of his house. He states that he buys 'whatever is on offer' and often these foods are energy dense and high in fat. Patient A has some knowledge of healthy eating and can

cook meals from scratch. However, he states that he 'cannot afford the ingredients for a healthy meal' and struggles to afford the fuel to cook a meal owing to the rise in energy bills.

What resources could you suggest to help Patient A to access a healthy diet? Who else could you refer him to for support?

Possible points to consider:

- support to access community cafés (e.g. FoodCycle) for meals and social support
- referral to Citizen's Advice for support with fuel poverty
- possible referral to a food bank.

**BOX 2 Clinical vignette: food insecurity and underweight in severe mental illness**

Patient B is a 20-year-old female who is experiencing her first episode of psychosis. She is under the care of the early intervention in psychosis team in the community but has recently been an in-patient in a psychiatric unit. On admission to hospital, she was identified as being underweight and was given some support to increase her weight as an in-patient. No one asked her about access to sufficient food. She lives in bed and breakfast accommodation and therefore has no access to cooking equipment. She is in receipt of Universal Credit but finds that she struggles to make this last for the full 4-week period between payments. Since discharge from hospital, patient B has lost weight and her currently body mass index places her in the underweight category. She has no history of an eating disorder and states that she 'wants to be a normal

weight'. She does not like discuss her finances or access to food with her mental health team as she feels embarrassed and ashamed.

How would you ask patient B about whether she is experiencing food insecurity? What resources could you suggest to support her in accessing sufficient food and increasing her BMI?

Possible points to consider:

- support with cookery equipment, e.g. a microwave oven
- support to access social supermarkets and/or community cafés
- possible referral to a dietitian for further assessment and advice regarding energy-dense nutritious food on a budget.

insecurity that could be built into a clinical assessment. A large-scale household food insecurity survey has never been conducted in the UK (Evidence and Network on UK Household Food Insecurity 2021) but the Food Standards Agency has included the Adult Food Security Module (U.S. Department of Agriculture 2012) in the bi-annual 'Food and You Survey' since 2016. This 10-item module has three stages (Box 3) and includes optional screening questions. This is currently the best available validated measure for assessing food security in the world and has been shown to have

good sensitivity and specificity for use in the UK (Evidence and Network on UK Household Food Insecurity 2021).

***Recognise that food insecurity is a complex and sensitive matter***

Healthcare practitioners should take into account that food insecurity is a complex and sensitive matter and people may need support with equipment or fuel poverty to prepare meals. Signposting to, for example, the local Food Power alliance or the Citizens Advice website may be required.

**BOX 3 Summary of the questions from the Adult Food Security Module**

**Stage 1: In the last 12 months, can you tell me if these statements were true for you? (often true/sometimes true/never true/don't know)**

'(I/We) worried whether (my/our) food would run out before (I/we) got money to buy more.'

'The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more.'

'(I/we) couldn't afford to eat balanced meals.'

**Stage 2: (if one or more questions in Stage 1 affirmed) In the last 12 months ...**

Did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food? (yes/no/don't know)

If yes: How often did this happen? (almost every month/some months but not every month/only 1 or 2 months/don't know)

Did you ever eat less than you felt you should because there wasn't enough money for food? (yes/no/don't know)

Were you ever hungry but didn't eat because there wasn't enough money for food? (yes/no/don't know)

Did you lose weight because there wasn't enough money for food? (yes/no/don't know)

**Stage 3: (if one or more questions in Stage 2 affirmed) In the last 12 months ...**

Did (you/you or other adults in your household) ever not eat for a whole day because there wasn't enough money for food? (yes/no/don't know)

If yes: How often did this happen – almost every month, some months but not every month, or in only 1 or 2 months? (almost every month/some months but not every month/only 1 or 2 months/don't know)

**Scoring**

Responses of 'yes', 'often', 'sometimes', 'almost every month' and 'some months but not every month' are coded as affirmative. The sum of affirmative responses to the 10 questions is the household's raw score on the scale.

Food security status is assigned as follows:

raw score zero: high food security among adults

raw score 1–2: marginal food security among adults

raw score 3–5: low food security among adults

raw score 6–10: very low food security among adults

(U.S. Department of Agriculture 2012)

### *Provide peer support*

A peer support model should be considered to help individuals access existing initiatives such as local food banks, community cafés and social supermarkets. The above-mentioned PPI work undertaken by J.S. indicated that people living with SMI and food insecurity would prefer to speak to a peer about their experiences and be supported by a peer to access initiatives to address it. It is therefore recommended that MDTs consider using existing peer workers or consider employing a peer to implement some of the recommendations that are suggested in this section.

### *Consider skills and support needs*

People may require support with their cookery skills. Healthcare practitioners who have access to a mental health specialist dietitian should therefore consult them for further advice. Dietitians use the most up-to-date public health and scientific research on food, health and disease, which they translate into practical guidance to enable people to make appropriate lifestyle and food choices. Access to dietitians within mental health services varies significantly across the UK, with some providers hosting large teams of specialist dietitians, but most providers having very limited access to such specialists. We strongly recommend that the need for specialist mental health dietitians is considered in workforce planning, ensuring that people can access these professionals when this is indicated. In many services, food preparation is part of psychosocial rehabilitation, with practitioners such as occupational therapists providing cookery skills groups or undertaking one-to-one work with individuals. Psychiatrists may therefore decide to make a referral to a dietitian or occupational therapist for further support.

Some people with SMI live alone and/or experience social isolation. Social isolation, in conjunction with an individual's psychiatric symptoms, may further contribute to poor eating habits. Individuals living alone require specific advice on cooking for one (such as batch cooking), as this requires a degree of knowledge, skills and equipment. Another option for people living alone or experiencing social isolation is accessing a community café, where surplus food is donated and prepared by volunteers. This is served free of charge and no referral is required. In addition to providing a healthy meal, community cafés are an opportunity to socialise with others. One example of a scheme that operates in the UK using this model is FoodCycle. It is important to consider the barriers that people with SMI may experience in accessing these resources and consider whether peer support could help overcome them.

### **What changes are needed in the future?**

Psychiatrists and their MDTs are well placed to champion the problem of food insecurity and promote the need for local and national policy change by lobbying for more equitable access to food in the UK. Since food insecurity was first recognised in the 1970s, a wide range of initiatives have attempted to address this health inequality. Although there are many emergency sources of support for people experiencing food insecurity, such as food banks, sustainable social supermarkets, food parcels and cooked meal provision, these are mainly reactive and temporary solutions. We need policy reform at local and national levels to prevent people falling into a food insecurity crisis and going hungry. The government programmes to address health inequalities encourage local initiatives such as food co-ops, community cafés, 'cook and eat' sessions, and partnerships between retailers, local authorities and communities. Research into local food projects has shown that social gains for individuals and communities are intrinsic to projects achieving nutritional and health benefits (McGlone 1999).

To date, much of the policy reform has focused on childhood food insecurity, with other vulnerable groups often being excluded (including people with SMI). Although the Feeding Britain report *A Hunger Free UK* focuses mainly on food insecurity for children and families (Feeding Britain 2018), it does include a section regarding older adults, with recommendations such as finding innovative ways to fund social care and preventive measures to stop older people becoming malnourished, such as means-tested winter fuel payments and protecting 'meals on wheels' services. However, vulnerable adults aged 18 to 64 years who are experiencing food insecurity are not considered. We have discussed here the problems faced by people with SMI who are living alone, but it is important to acknowledge that some have families and children. For these people, food insecurity may interrelate with additional family pressures. The recommendations of this article therefore need to be considered in the context of each individual's circumstances.

To address this stark health inequality for adults living with SMI, policy makers initially need to understand the barriers these individual face accessing existing interventions to address food insecurity. It is vital that any new interventions or policies for adults with SMI are co-produced so that they are feasible and acceptable for this population. Public health interventions are often delivered to, rather than with, the target communities, which can raise questions about their acceptability in real-world practice (McGeechan 2019). It is important that new

**BOX 4 Summary of recommendations at local and national level**

- Psychiatrists and the multidisciplinary teams they work with may wish to lobby for policy change and equitable access to food
- Proactive policy reform is essential to prevent people with severe mental illness (SMI) from developing food insecurity, rather than relying on retroactive community initiatives to address food insecurity
- Future policies to address food insecurity and poverty must ensure they meet the needs of vulnerable adults in addition to children and families, particularly adults aged 18–64 who live alone
- Food insecurity interventions for people living with SMI should be co-produced, and the peer support model should be considered
- Further UK-based research into food insecurity for people with SMI is needed

**MCQ answers**

1 d 2 c 3 b 4 b 5 e

interventions and/or policies adopt a value-driven approach, built on the principle that those who are affected by a service are best placed to design it.

Although it is important to address current levels of food insecurity for adults with SMI, it is vital that this population are fully considered in upstream policy changes aimed at preventing food insecurity. One of the reasons why hunger has not been moved higher up the political agenda is that the worst consequences of hunger among the poorest people in society are alleviated by the voluntary sector and communities (Feeding Britain 2018). The National Food Strategy focuses mainly on ensuring that the UK has sufficient access to food supplies by recommending that the government trials a ‘Community Eatwell’ programme providing targeted healthy eating support for people on low incomes (Dimbleby 2021). This would include identifying people who require dietary support and making a referral to a link worker (a non-clinical staff member with specialist training to support healthy eating). The link worker would design a programme to support the person to engage with community services. We would question whether this goes far enough in addressing the complex issues that surround the causes and consequences of food insecurity for people with SMI. The National Food Strategy fails to address the complex causes of food insecurity in vulnerable groups, such as fuel poverty and a benefits system that is not fit for purpose. Without addressing these upstream problems, people with SMI are likely to be living with food insecurity for the foreseeable future.

**More research on food insecurity and SMI**

Primary research is urgently required in the UK to understand the prevalence of food insecurity among adults with SMI. It is also vital that we listen to the experiences of people living with SMI in relation to food insecurity and how it affects their weight and general health. Future longitudinal studies using rigorous statistical analysis are required to assess food insecurity interventions and the impact of food insecurity on SMI and general health.

**Take-home message**

Psychiatrists need to routinely assess and monitor food insecurity in people with SMI. They need to work with people with mental ill health to co-produce interventions that are acceptable, accessible and can be tailored to individual circumstances. Urgent policy reform is required to ensure that adults with SMI are included in upstream policy changes that address food insecurity (Box 4).

**Author contributions**

J.S., C.H., E.P. and S.G. conceived the idea for this paper. S.K. and D.A. consulted on the content. J.S. led on the overall design and write-up, supported by C.H. S.G. approached the editor with the idea for the paper. All authors contributed to the writing of this paper.

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**MCQs**

Select the single best option for each question stem

- 1** The estimated prevalence of food insecurity for adults with SMI is:
- a 10%
  - b 25%
  - c 30%
  - d 40%
  - e 50%.
- 2** In 2012, the reported price disparity (£ per 1000 calories) between healthy and unhealthy food products was:
- a £5.75 healthy v. £1.25 unhealthy
  - b £6.79 healthy v. £3.35 unhealthy
  - c £7.49 healthy v. £2.50 unhealthy
  - d £8.21 healthy v. £2.75 unhealthy
  - e £8.89 healthy v. £3.48 unhealthy.
- 3** The percentage of people living with psychosis who were in employment in the UK in 2014 was:
- a 8%
  - b 11%
  - c 17%
  - d 21%
  - e 35%.
- 4** Which of the following questions is from the Adult Food Insecurity Module? In the last 12 months ...:
- a Did (you/you or other adults in your household) ever choose unhealthy options because there wasn't enough money for food?
  - b Did (you/you or other adults in your household) ever cut the size of your meals or skip meals because there wasn't enough money for food?
  - c Did (you/you or other adults in your household) ever prioritise energy bills over food because there wasn't enough money?
  - d Did (you/you or other adults in your household) ever prioritise feeding the children over the adults because there wasn't enough money for food?
- 5** The programme that the National Food Strategy recommends that the UK government trials to address food insecurity is:
- a the Eatwell Guide
  - b Feeding Britain
  - c End Hunger
  - d Food Banks
  - e Community Eatwell.