What are the key influences and challenges around weight management faced by patients in UK adult secure mental health settings? A focussed ethnographic approach

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Abstract

Objectives Excess weight is highly prevalent in secure (forensic) mental health services and impacts negatively on patients' physical and mental health. This study sought to identify the key influences and challenges around weight management in United Kingdom (UK) adult secure mental health settings.

Design Qualitative focussed ethnography. Analysis of written fieldnotes was undertaken through a combined inductive and deductive approach, informed by thematic analysis.

Setting Low secure male mental health ward and associated patient activities and events, in a National Health Service (NHS) Trust delivering mental health, intellectual disability and neuro-rehabilitation services in the UK.

Participants Twelve males (primarily White British) on the low secure ward; additional male participants from low and medium secure services, who took part in group events and activities; and multidisciplinary low and medium secure services staff. Approximately 23 hours of observation were undertaken over a six-month period from April 2022.

Results Secure mental healthcare delivered an environment predisposing patients to excessive weight gain and sedentary behaviour, which was often perceived as inevitable. Key themes highlighted the heightened salience of food in secure settings; inadequacy of catered hospital food and shortcomings of alternative food options; limited physical activity opportunities; and a ward culture that was not conducive to healthy behaviours. Perceptions and behaviour towards the ethnographer were primarily positive and accepting.

Conclusions Weight management in secure services is a complex challenge. In future, whole setting-based interventions to promote healthy weight are likely to be required. These should integrate physical and mental health, incorporate underpinning determinants such as adequate staffing and a culture promoting weight management, and involve both patients and staff.

Strengths and limitations of this study

- To our knowledge, this is the first study to use a focussed ethnographic approach to explore weight management in a secure mental health setting.
- Focussed ethnography facilitates immersion of the researcher into the local culture, thereby enabling them to directly observe and explore behaviours and perceptions in context.
- Our research was primarily conducted on one male low secure ward in a single NHS Trust, which may limit wider generalisability of the findings.

Introduction

In the United Kingdom (UK) general population, 26% of all adults are living with obesity, and a further 40% are overweight (1). There is a bidirectional relationship between excess weight and mental illness, such that people experiencing poor mental health are more likely to develop overweight and obesity, and vice versa (2). In particular, people living with severe mental illness (SMI, including schizophrenia and bipolar disorder) tend to die 15-20 years earlier than the wider population (3). This is largely due to preventable physical health conditions, particularly noncommunicable diseases due to overweight and obesity (4). People experiencing SMI are 1.8 times more likely to be living with obesity, and 1.9 times more likely to develop type 2 diabetes, compared with the rest of the population (5). These challenges are even greater for secure care patients (6, 7), who are detained under the Mental Health Act (1983) as a result of committing a crime and/or posing a threat to themselves or others, and who are not able to enter or leave the healthcare setting at will (8). In secure services, excess weight is estimated to affect approximately 80% of patients (6). Addressing inequalities in overweight and obesity between patients with SMI and the wider population is a persistent, complex challenge and despite being identified as a UK national priority (9, 10) and the issuing of relevant guidance (11), has historically been overlooked.

In healthcare research, ethnography has become well-established as a research method with particular advantages in accessing perceptions and practices in their contemporary context (12, 13). Ethnography has been used successfully in secure mental health environments (14), and to examine food-related behaviours in other closed settings such as care homes for older people (15) and prisons (16). However, the use of ethnography as a tool to explore weight management in secure settings is novel. Focussed ethnography provides an applied and pragmatic approach, with particular value for studying specific phenomena as they take place in everyday life (17). This study aimed to use a focussed ethnographic approach to explore influences, experiences and challenges around weight management in secure mental health settings.

Methods

This study was conducted in a low secure, male mental health ward, which forms part of a National Health Service (NHS) Trust delivering mental health, intellectual disability and neuro-rehabilitation services in Northern England. The study is part of a wider programme of work comprising both qualitative and quantitative methods to address weight management in secure mental health services. The study received NHS Research Ethics Committee (REC) approval from the London – Bromley REC, and Health Research Authority (HRA) and Health and Care Research Wales (HCRW) approval, reference 22/PR/0100. All participants were informed of the purpose and rationale for the research, and the reason for the ethnographer spending time in the environment, verbally and through written and visual materials. All potential participants were given the opportunity to opt out, although none chose to do so. Verbal rather than written consent was received from all participants, and approved by the REC as a proportionate and pragmatic approach to involvement, in view of the variable and rapidly changing healthcare environment.

Patient and Public Involvement

Five people with lived experience of SMI, including time spent in secure care settings, were recruited through the NHS Trust 'Involvement Bank', which invites people with lived experience of mental illness to contribute to research initiatives. These contributors were involved from the outset of the research. They participated in a steering group to set the research question and develop the research protocol, and decided on appropriate methods of data collection. Throughout the duration of the study, two people with lived experience of SMI advised on the approach to research conduct and analysis. Three further people are also involved in tailoring appropriate dissemination of the findings to research participants, and wider patient communities such as representative third sector organisations.

Data collection took place over six months between April and September 2022 and comprised approximately 23 hours of in person observations, conducted by the lead researcher (SM). A focussed ethnographic approach was undertaken, whereby SM spent time in the research environment, observing events and interactions, engaging with research participants in conversation, and recording retrospective written fieldnotes. SM received specific training in ethnography and has extensive experience of conducting qualitative research. SM is a female public health doctor and researcher and was previously unknown to the research participants. Fieldwork was conducted across the low secure mental health ward; in other locations within the NHS Trust site such as the sports hall and canteen; and in off-site locations such as shopping trips to the local town. Ward observations involved 12 male patients with approximate age range 25 to 50 years and all except two of White British ethnicity. The 22 staff employed on the ward also took part; age and ethnicity of staff were not recorded. The low secure male mental health ward was selected for observation in view of the generally stable nature of patient illness and associated capacity to consent to involvement; long duration of patient stay on the ward; and opportunity to engage with patient leave trips off site. The primary focus of fieldwork was the patients and staff on this ward, however observations also included communal events and activities involving other low and medium secure patients and staff from across the NHS Trust. Fieldwork sought to capture diverse activities relating to food and exercise spanning the full 24 hour period, over both weekdays and weekends.

Contemporaneous written fieldnotes were taken and anonymised at the earliest opportunity, with concurrent data analysis. This enabled issues identified in earlier stages of fieldwork to be subsequently explored, thereby facilitating conceptual saturation (18). A combined deductive and inductive stance was taken. Key themes from existing literature and earlier stages of the wider programme of work addressing weight management in secure mental health services were used as starting points for exploration. Observations and analysis also remained open to the emergence of new issues and concepts. Analysis was led by SM and undertaken through a standard rigorous qualitative approach (19) employing thematic analysis (20). SM reviewed the fieldnotes and initial codes were allocated, then fieldnotes were re-read and codes grouped into key themes. A data clinic comprising the lead researcher and supervisory team (two public health professors and a forensic psychiatry clinician academic, all with experience of qualitative research) met on three occasions to review themes and identify any divergence of opinion. Disagreements were resolved unanimously, through discussions exploring the views and perceptions of those participating in the data clinic. Themes were subsequently presented at two meetings with a diverse steering group comprising one dietician, one exercise therapist, one peer supporter, one psychiatry consultant, one physical health and wellbeing lead, one former patient and one current patient. The themes were explored through different clinical scenarios

and proposed evidence statements, and were used to generate discussion and identify key future action areas for policy and practice. The analysis was assisted by QRS NVivo 14 software.

Results

Five main themes regarding weight management in secure services were identified, namely: salience of food; inadequacy of catered hospital food; alternative food options; physical activity opportunities; and ward culture. A reflexive theme concerning perceptions and behaviour towards the researcher on the ward was also explored.

Salience of food

The importance of food for patients in the secure care environment was greatly amplified by the relative lack of other activities and events, and the withdrawal of personal choice in many aspects of daily life. Patients spent the majority of their time at leisure in their bedroom or the communal room, and were not at liberty to come and go from the locked ward at will.

"Food is probably the most important issue for the whole Trust." Staff quotation

"He's never that animated or engaged, except around food. It brings them all to life, makes them participate as a group." Staff quotation

Food and shared eating occasions appeared to be valuable opportunities – of which there were very few in secure care – for promoting social cohesion and positive relationships between patients, and between patients and staff.

"The meals bring them together, it's the only thing that gets them out of their rooms. So it has social value beyond (or perhaps despite) the food." Staff quotation

'Staff 1 then got a homemade cheesecake out of the fridge – Galaxy chocolate with biscuit base. The men said how impressive it looked, and staff 2 explained that staff 1 had wanted to make something special for them all, because she will be changing jobs soon.' Fieldnote, communal meal at the social club

Inadequacy of catered hospital food

Despite the centrality of food, the hospital catered meals were universally perceived as poor and inadequate for the patients' requirements.

'Patient 12 said the food was atrocious and he wouldn't feed it to the rest of his family, or even a dog. The portion sizes are too small, there is a lack of variety and it is all very poor quality.' Fieldnote, discussion with patient

'I had a long discussion with staff about the quality of ward food: very processed, mashed potato 'won't move out of the container', jacket potatoes often hard, very limited vegetables – patients like the sweetcorn and peppers but there is only a small amount provided. Meat such as the lamb chops is often very fatty, with little actual meat.' Fieldnote, staffroom discussion

'The curry was served with sprouts (which were untouched) and a double portion of carbohydrates with rice and boiled potatoes. No-one accepted any of the stewed rhubarb for dessert.' Fieldnote, dinner time

Portion sizes were raised as a particular issue, and were considered too small for the patient client group on the ward.

'Staff 3 said she wanted to feed back about portion sizes, and that she feels they are not enough for the young men on the ward. She said it doesn't make sense to have the same portions sizes for everyone across the Trust.' Fieldnote, discussion with staff

"The portions they're given at mealtimes are far too small. Not fit for a young man who is six foot, 18 stone. So of course they're hungry afterwards and eat all the other snacks. The approach by some of the nurses to curb eating between meals often doesn't help because then they go and buy other snacks themselves." Staff quotation

'Sliced bread is kept in the kitchen cupboard and almost all the men asked for several extra slices of bread and margarine/butter to accompany their meal at dinner time.' Fieldnote, dinner time

Hospital meals and wider food provision on the ward were not seen as tailored to individual needs and preferences, but rather a 'one size fits all' approach. Weight gain was often perceived as inevitable.

"Even if patients are diabetic it doesn't make any difference to what they eat. patient 3 has put on about five stone in the time he's been here and his diabetes is all down to what he eats." Staff quotation

'I had a long chat with staff 9 and staff 10 in the nurses' office. Meals need to be ordered from catering several days in advance – the order is submitted by night staff. Some patients don't bother to fill in the form and some need help with ordering but might be too embarrassed to ask for assistance. Staff quite often need to fill it out based on their assumptions.' Fieldnote, nurses' office

Patients and staff both reflected that the dissatisfaction around food provision was longstanding, and the NHS Trust catering services appeared either unable or unwilling to change and improve.

*"Food provided by catering is cr*p. We've been asked about it for years, including by chief execs, but nothing ever gets done about it. Wish you luck with the project." Staff quotation*

'Staff 4 and I talked about issues around food – all the patients report the regen food ('cook and chill') to be very poor. The problems have been raised consistently over more than 20 years, without much change.' Fieldnote, discussion with staff

'Patient 12 said that complaints had been made for years (since he came into the service in 2010) but things hadn't changed. He wanted to bring details of a survey he had done with other patients about potential changes to the menu to the Trust management group. Staff 4 said the group knew about the complaints but nothing had happened as a result.' Fieldnote, discussion with patient

Alternative food options

In terms of alternatives to hospital catered meals, options for patients were limited and generally comprised unhealthy choices. On the low secure ward, many of the men had unaccompanied or (primarily) accompanied Section 17 approved leave. This entitled them to make trips off the ward, which they usually used to undertake activities associated with food. Excursions included the on-site hospital canteen for a hot cooked breakfast; the local garage shop to buy confectionery, crisps and sugar-sweetened beverages; and the local town to visit a café, fast-food restaurant or supermarket.

'A staff nurse came in to ask about cash for a patient's leave to the garage. Staff 11 asked him to try and prompt the patient to purchase food like sandwich fillings, rather than chocolate and sweets. The patient was planning to take £55, which seems like a lot for one trip.' Fieldnote, nurses' office

Staff 5 explained to me about the challenge of patient activities all centring around unhealthy food, as demonstrated by the Trust social media posts. For example, a walk or trip out was always followed by unhealthy food, and Facebook posts stated things like 'men all came back for second helpings'.' Fieldnote, staff discussion

On the particular ward where fieldwork was undertaken, takeaways were permitted once weekly on a Saturday evening. Across the wider NHS Trust, the frequency of takeaways varied, with some wards having no constraints on ordering. Takeaway evenings were generally popular and often involved vast quantities of food.

'Patient 4 had a biryani (rice curry) and chips, with full-sugar coke. They were very large helpings and he helped himself gradually to the curry, then some of the chips, but eventually said to himself 'I'm not able to finish this'.' Fieldnote, takeaway evening

'Patient 5 had a munchie box, which is items from across the full menu, including chips and rice. The box was huge and it took him a very long time to get through it, but he persevered and left only some rice.' Fieldnote, takeaway evening

Individual patients generally had opportunities to cook their own meal, assisted by a member of support staff on the ward, and could also participate in a communal evening meal and a communal hot breakfast. However, individual cooking sessions usually occurred at a maximum frequency of once weekly and the cooking facilities available were very limited. This is likely to have hampered the development of personal cooking skills, and reduced the independence and self-sufficiency of patients in their onward transition out of inpatient services.

'The ward kitchen is very small, only really room for a couple of people. The oven is only big enough for a few pizzas at a time, so the men have to eat in shifts.' Fieldnote, communal meal

'All the sharp knives have been put away following a security incident, so staff 8 had to try and chop the chicken with a very blunt knife.' Fieldnote, patient cooking session

Patients appeared to enjoy the opportunity for individual creativity – seldom experienced in secure services – when preparing their meals.

'Staff 6 and patient 3 discussed his cooking. He likes to cook his specialty dish of 'African stew and semolina', which staff 6 agrees is unusual and tasty.' Fieldnote, patient cooking session

However, the food prepared was usually unhealthy and eaten in large quantities.

'When the communal meal of pizza, onion rings and chips was ready, it was piled onto plates in huge portions and the men added loads of different sauces.' Fieldnote, communal meal

There were also frequent examples of poor food hygiene.

'Patient 5 appeared to be the most competent and thoughtful about cooking and gave the most consideration to cleaning up after himself and washing his hands. Even so, he touched raw meat (bacon) and then touched other surfaces in the kitchen without washing his hands. Patient 6 noticed that the bread was mouldy – several loaves of bread were open and two whole loaves out of date, so had to be thrown away. Patient 5 noticed (after the rest of the men had already

eaten them) that the eggs were out of date. The last egg was thrown away and he used the next large box instead.' Fieldnote, communal breakfast

These issues highlighted a tension between the social cohesion and skills developed through meals, and the potential negative physical health implications of their consumption.

Physical activity opportunities

Opportunities for undertaking physical activity were severely restricted by the locked ward environment. Patients with Section 17 leave were generally offered the chance to take part in visits to the on-site gym and walks around the hospital grounds, alongside less frequent off-site visits.

'Staff 5 talked about other exercise opportunities such as community gym visits, swimming and the cycling group including cycling proficiency.' Fieldnote, staff discussion

'Staff 7 mentioned that other activities also take place, such as community gym visits, football on-site, and community football [facilitated by a premier league team]. Medium secure services also have their own small gym for men without ground leave.' Fieldnote, staff discussion

Exercise participation provided a potential opportunity for social cohesion and bonding, both between patients and staff, and between patients themselves.

'Patient 5 mentioned to patient 1 that community gym visits are also available, and he was keen to take part. "You've just got to maintain your weight – put on a bit of fat, some muscle, then stick with that". Patient 5 asked patient 1 to join him, if he wanted to.' Fieldnote, gym visit

'Staff 8 arranged to knock on patient 4's door to bring him along to the gym, and offered to do the same for patients 6 and 7.' Fieldnote, patient lounge

However, these physical activity opportunities were constrained by staff availability to accompany patients, and were frequently reduced or cancelled due to low staffing levels. As a result, patients were sedentary for the vast majority of their day, thereby contributing to potential weight gain and physical deconditioning.

'After finishing cooking, patient 1 went and lay down on the sofa by the pool table. The men frequently lie slumped on the sofas, with vapes – not particularly watching anything, nor reading, engaging in conversation etc.' Fieldnote, patient lounge

Ward culture

Issues around weight management in secure care reflected aspects of the culture of the ward and of the wider NHS Trust. Since inpatients typically spent several years engaged with services, they commonly exhibited traits of 'institutionalisation'.

'At the communal meal, the men were very comfortable with being observed eating. They each sat and ate their food by themselves as soon as it was ready, then left once they were done eating. They didn't engage with each other during the meal or wait for others to finish.' Fieldnote, communal meal

'At the canteen, patient 8 had a full cooked breakfast which he ate very quickly, still wearing his backpack and coat and barely sitting down, then he put the tray away to leave.' Fieldnote, canteen

In particular, patients generally showed little interest in their personal appearance, which could reflect wider issues around weight and low self-esteem.

'Almost all of the men were wearing tracksuits or joggers, which are stretchy and forgiving for the waistline. The vast majority were very overweight and had a characteristic bulge around the midriff.' Fieldnote, patient lounge

'At the communal breakfast patient 2 had to be asked to put some clothes on, as he was wearing only a dressing gown.' Fieldnote, communal breakfast

In terms of interactions on the ward, patients were usually friendly and positive towards staff.

'At dinner the men are generally very polite and always say please and thank you, and ask how the staff are doing etc. They request extra items politely and pleasantly, without any aggression.' Fieldnote, dinner time

However, there were numerous examples of patients pitting staff against each other, in order to get what they desired around food.

"The amount of fruit patient 3 eats – he'll come overnight and ask for fruit, yoghurt, cereal, and if we don't give it to him goes round the other side [of the ward] to get it instead." Staff quotation

'Staff 3 said that since some staff will give in and serve the men seconds or extra food, whilst other staff adhere to the rules, it can create tensions between staff and patients.' Fieldnote, discussion with staff

Staff were also often under pressure due to understaffing and competing demands on the ward, which impacted on the quality of the food service and facilitation of physical activity opportunities for patients.

'Meals have been late quite a lot recently, as the catering team are short-staffed so have been bringing meals over from another ward, rather than the adjoining kitchen.' Fieldnote, dinner time

'I attended the ward to accompany the patients' visit to the social club. I was informed by nurses in the nurses' office that the trip has been cancelled due to low staffing. The ward is also very short staffed – finding it difficult to cover activities and responsibilities. As a result, very few patient leave trips have been booked in for this week, and many of the support staff are not around.' Fieldnote, nurses' office

Although the vast majority of patients on the ward were overweight, there were a few examples of 'positive deviance' – patients who avoided weight gain despite the ward culture and predominance of unhealthy food and sedentary behaviour.

'Patient 9 is the only one who is careful about his food intake. He declines offers of fizzy pop. He likes to exercise in the gym and describes himself as having 'abs of steel'. Staff 6 says he is concerned about his weight due to a heart condition and he doesn't eat the takeaways when they're out on trips.' Fieldnote, communal meal

'Patient 10 sometimes comes to the canteen, and unlike the others, needs encouragement to eat due to underweight.' Fieldnote, hospital canteen

Response to researcher

The unique nature of ethnography as an opportunity for the researcher to become embedded in the observed environment and to experience interactions, events and culture at first hand, means that responses to the ethnographer influence associated data collection and interpretation (21). Overall, the lead researcher was well received by both patients and staff on the ward.

'Groups of patients from different wards gradually arrived, accompanied by ward staff, many of whom I recognised. Lots of the patients greeted me with 'how you doing?' and fist-bumped or waved. Some asked about my role and I explained about my research interest in food and exercise, and my background as a doctor. This was accepted as just another person attending the event.' Fieldnote, social club

'After cooking, patient 11 and staff 8 ate their food at the same time – patient 11 seemed pleased with his creation. He even offered to cook for me next time too, if he knew I was coming in advance.' Fieldnote, patient cooking session

However, there were occasional instances of negativity and situations where the researcher's presence may have impacted upon behaviour on the ward.

'Patient 11 made aggressive, threatening comments towards me – "Why are you doing research when you should be looking after my feet? It's a disgrace. I've been taken off treatment I've been using since I was 19. It's a safeguarding issue. What's your name, what are you going to do about it? It's a safeguarding concern – that's everyone's responsibility." I felt quite anxious in case patient 11 became violent or more aggressive. I felt embarrassed that my presence was causing such a negative response, and was unsure how to communicate or respond back.' Fieldnote, patient lounge

'I arrived at the nurses' office for the communal breakfast session and was told "Staff 8 is next door, starving". Later patient 8 said that if I hadn't been there, staff 8 would have eaten a cooked breakfast too – which staff 8 agreed with. I wondered whether staff on the ward are still feeling aware of my presence and behaving differently in response.' Fieldnote, communal breakfast

Over time, the researcher appeared to be increasingly viewed as a regular member of staff on the ward.

'Several of the men asked me for items due to my perceived role as a clinical member of staff – patient 5 asked for a fork at dinner and patient 9 asked for towels.' Fieldnote, takeaway evening

Discussion

Weight management in secure services is a complex, enduring challenge. Key themes were identified as: heightened salience of food in secure settings; inadequacy of catered hospital food; alternative food options; physical activity opportunities; and ward culture, including understaffing. The reception towards the ethnographer during the research was generally positive and accepting. The themes highlighted an environment in which unhealthy food and sedentary behaviour predominated and development of excess weight was the norm.

Strengths and weaknesses in relation to other studies

A systematic review published by Public Health England in 2017 identified strong evidence of the need to tackle obesity in mental health secure settings (6). Rates of overweight and obesity

were found to be high, with up to 80% of patients affected, and prevalence of excess weight increased over time with standard care. In accordance with our findings, the systematic review indicated that factors contributing towards predisposition to weight gain in this setting are complex and require educational, resource and environmental interventions to address cultural and practical change. The potential tensions between differing views of secure healthcare staff concerning weight management identified in our study were similarly highlighted in a survey of weight management in UK medium secure units (22). This survey indicated particular dissonance between staff regarding the ethics of restricting patients' access to food in order to reduce obesity. Two recent qualitative studies explored staff views regarding factors influencing obesity in secure mental health services (23, 24). Themes noted by the authors concurred with our key findings and centred around: the links between physical and mental health, challenges inherent in the secure care environment, and the role of food in behaviour and relationships.

Strengths and weaknesses of the study

To our knowledge, this is the first study to use a focussed ethnographic approach in the context of mental health secure services to explore issues pertinent to weight management. Long et al (2009) previously undertook observation of eating practices on three female secure mental health units, however this was limited to random observation of mealtimes, for the purposes of informing assessment of dietary intake only (25). Our study facilitated the immersion of the lead researcher into the culture of the secure environment, thereby enabling her to directly observe and explore practices and perceptions around weight management in context. The ethnographer was independent and previously unknown to research participants, which is likely to have encouraged candid sharing of views and experiences (26). Nonetheless, it is possible that the presence of the researcher on the ward influenced patients and staff, such that they modified their usual behaviour. The focussed ethnography was undertaken on a low secure male ward in a single NHS Trust, which may limit wider generalisation of the findings to other secure services. However, the ethnographic observations included communal events involving patients from other environments, such as medium secure care, and wider activities such as patient leave trips into the community. Many patients and staff also reflected on their experiences of food and exercise from other secure settings.

Meaning of the study: possible explanations and implications for clinicians and policymakers

Our study highlights the central importance of food and physical activity in secure mental health settings, including the impact on physical health, mental health – including self-esteem and building social cohesion – and wellbeing. The secure environment presents unique and complex challenges in terms of healthy weight management, particularly in view of the predisposition to weight gain experienced as a result of administering antipsychotic medications (27). However, the environment also presents potential opportunities, as a closed setting with close therapeutic relationships sustained over a long time period. Improvements in hospital catered food emerged as a key area for development, including greater variety, tailoring of portion sizes, improved presentation and acknowledgment of patients' dietary needs and preferences. Meal alternatives should also be optimised, with greater guidance and/or restrictions on food purchases and takeaways. Careful navigation is required to balance tensions between the positive social cohesion and skills developed through shared meals, and the potential negative physical health implications of their consumption. In terms of addressing sedentary behaviour, a greater frequency and variety of opportunities to be physically active should be offered, tailored to patients' preferences whenever possible. Overall, ambivalence

around weight gain and contributing environmental factors must be challenged, with adoption of a holistic, health-focussed culture. This will necessitate consideration of wider determinants, such as understaffing, multidisciplinary training needs and NHS Trust-wide catering procurement and weight management policy.

Unanswered questions and future research

Future research is required to explore influences and challenges around weight management in other contexts, including medium and high secure units, and female services. The feasibility, acceptability and impact of potential interventions to tackle excess weight in secure care settings also needs to be addressed. This could be facilitated by building on examples of 'positive deviance', informed by insights from patients maintaining a healthy weight despite the existing challenges of the secure environment.

Conclusions

Secure mental healthcare is liable to deliver an environment predisposing patients to excessive weight gain. This is influenced by the heightened salience of food, inadequacy of catered hospital meals and alternative food options, limited physical activity opportunities and overarching ward culture. Future interventions should optimise and integrate physical and mental health and involve both patients and multidisciplinary staff. Approaches should incorporate underpinning determinants such as adequate staffing levels and weight management policy to support a setting and culture that promotes healthy weight and well-being.

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