

PUBLIC HEALTH NUTRITION AND EPIDEMIOLOGY

A qualitative study to investigate the drivers and barriers to healthy eating in two public sector workplaces

A. Pridgeon* & K. Whitehead†

*Doncaster and Bassetlaw Hospitals NHS Foundation Trust, Department of Nutrition & Dietetics, Doncaster Royal Infirmary, Doncaster, UK

†Division of Nutritional Sciences, School of Biosciences, University of Nottingham, Leicester, UK

Keywords

health eating, health promotion, qualitative, workplace nutrition.

Correspondence

A. Pridgeon, Doncaster and Bassetlaw Hospitals NHS Foundation Trust, Department of Nutrition & Dietetics, Doncaster Royal Infirmary, Armthorpe Road, Doncaster DN2 5LT, UK.

Tel.: +44 (0)1302 366666

Fax: +44 (0) 1302 381300

E-mail: anne.pridgeon@nhs.net

How to cite this article

Pridgeon A. & Whitehead K. (2013) A qualitative study to investigate the drivers and barriers to healthy eating in two public sector workplaces. *J Hum Nutr Diet.* **26**, 85–95
doi:10.1111/j.1365-277X.2012.01281.x

Abstract

Background: Workplaces are a key setting for improving the health of employees and influencing the health of the local population. The present study aimed to provide a deeper understanding of the perceptions and views of staff on the drivers and barriers to the provision, promotion and consumption of healthier food choices in two public sector workplaces.

Methods: A mixture of catering and other staff ($n = 23$) employed by either Barnsley Metropolitan Borough Council or Barnsley Primary Care Trust were interviewed. Purposive sampling was used to ensure representation of different grades, job roles, hours worked, gender and age groups. All interviews were conducted in the workplace and were audio recorded, transcribed verbatim and analysed using framework analysis.

Results: Four themes that influence food and healthy eating in the workplace were identified: workplace structures and systems; cost, choice and availability of food; personal versus institutional responsibility; and food messages and marketing. Interviewees perceived that foods promoted in the workplace were traditional 'stodgy' foods and that there was a limited availability of affordable healthy choices. Catering staff were driven to run their service as a business rather than promote health. Time constraints and tight deadlines imposed on staff led to some not eating at midday.

Conclusions: There is little qualitative research published about food in the workplace. This unique qualitative study has elicited staff views and experiences and suggests complexity around healthy eating and food provision in the workplace. The findings may inform the planning of future workplace interventions.

Introduction

Over 29 million people are employed in the UK, with 6 million working in the public sector (Office for National Statistics, 2011). Because adults can spend up to 60% of their waking hours in work (Department of Health, 2005), workplace health promotion approaches are increasingly being encouraged [World Health Organization (WHO), 2004]. There is growing emphasis on public sector organisations to improve the health and wellbeing

of adults (WHO, 2004; Cross Government Obesity Unit Department of Health & Department of Children, Schools and Families, 2008; Boorman, 2009; Department of Health, 2009, 2010a,b,c, 2011; Marmot, 2010). Benefits of workplace health promotion include improved productivity, job satisfaction and morale, reduced absenteeism and improved staff retention (Department for Work & Pensions & Department of Health, 2008).

An unhealthy diet increases the risk of major non-communicable chronic diseases such as coronary heart

disease, stroke, diabetes and some cancers in adults, and indirectly contributes to an increased risk through being overweight and obese (WHO, 2003). It is estimated that there are three million overweight or obese people employed by the public sector in the UK (Cabinet Office, 2008). Developing these chronic conditions may lead to absence from (or not being able to continue in) work.

Workplaces can support staff to assess and take responsibility for their own health by encouraging healthier lifestyle behaviours, as well as providing healthy options (Story *et al.*, 2008; Department of Health, 2010c). Fruit, vegetable and fat intake can be positively influenced by environmental strategies in the workplace, such as point of purchase labelling and an increased availability of healthy foods (Engbers *et al.*, 2005; Quintiliani *et al.*, 2010). National guidance [National Institute for Health and Clinical Excellence (NICE), 2006] recommends that workplaces have policies that encourage healthy eating and actively promote healthy choices in restaurants, hospitality, vending machines and shops for staff and clients. A recent audit of the implementation of this NICE guidance (Royal College of Physicians, 2011) identified that little action had been taken on the promotion of healthy food choices.

The literature aiming to assess employee's opinions about healthy eating in the workplace is limited, particularly for food provision in the public sector (Cabinet Office, 2008). Studies have identified that workers are aware of the importance of changing unhealthy behaviours (Tessaro *et al.*, 1998; Devine *et al.*, 2007) and are willing to eat healthy foods if they were tasty, convenient, reasonably priced and of good quality (Devine *et al.*, 2007). The USA Health Styles surveys identified that employees wanted more healthy vending or canteen food choices (Blanck *et al.*, 2007; Kruger *et al.*, 2007). Barriers to healthy eating include long hours worked as a result of staffing and workload issues, a lack of a variety of acceptable food available, distance to catering facilities and poor dining facilities, stress-related eating and a culture that rewards working through breaks (Tessaro *et al.*, 1998; Faugier *et al.*, 2001a,b; Devine *et al.*, 2003; Devine & Nelson, 2007).

Given that workplaces are each unique and complex environments, the present qualitative study aimed to explore the perceptions and views of staff on the provision, promotion and consumption of healthier food choices in two public sector workplaces. The study took place in Barnsley, South Yorkshire, within two of the largest public sector employers in the borough, Barnsley Primary Care Trust (BPCT) and Barnsley Metropolitan Borough Council (BMBC), employing approximately 2200 and 11 000 staff, respectively.

Materials and methods

A qualitative research design was chosen for the present study because this investigates the 'how' and 'why' individuals act in certain ways and is able to answer complex questions about food-related behaviour (Swift & Tischler, 2010). A realist theoretical approach (Bryman, 2004; Braun & Clarke, 2006) was used to guide the design and implementation of the study. This approach attempts to understand the thoughts of people, in this instance on food within the workplace, without subjecting them to predetermined or biased conditions. This allows people to represent themselves in their own words (Ritchie & Lewis, 2003).

Recruitment

All BPCT and BMBC employed staff were eligible to take part in the present study. To attract volunteers, posters were placed on notice boards in prominent areas of both workplace buildings and a request was placed on the intranet of both organisations. Staff interested in participating were sent information about the study and asked to complete a short questionnaire providing job and demographic information, place of work and current eating habits. From this information, volunteers were purposively picked using a stratified purposeful sampling strategy (Table 1) to represent different grades of staff in both organisations. It was later decided to interview three catering staff from each organisation to represent management, kitchen and dining room staff.

A total of 40 individuals contacted the researcher either by telephone or e-mail to become a volunteer in the study. Of these, seventeen were excluded for the following reasons:

- Seven were no longer interested once they had received the project information sheet.
- Nine were not interviewed because sufficient staff had already been recruited for their particular staff group.

Table 1 Stratified purposeful sampling strategy used to pick volunteers to be interviewed

Barnsley Primary Care Trust		Barnsley Metropolitan Borough Council	
Staff group	Number	Staff group	Number
Managers	1–2	Senior managers	1–2
Catering staff	1–2	Catering staff	1–2
Estates staff	1–2	Manual staff	1–2
Clerical staff	1–2	Office staff (Scale 1–6)	1–2
Clinical/scientific/therapeutic staff	1–2	Senior/Principal officers	1–2

- One person was employed neither by BPCT, nor BMBC.

Data collection

Two slightly different interview schedules (Table 2) were developed: one for catering staff and the other for non catering staff. The main aim was to explore opinions about food provision in the workplace and perceptions of how, and if, their employer promoted healthy eating. For catering staff, the schedule also aimed to identify perceptions about their role to promote health. Interviews were conducted by the main researcher unassisted. All interviews were audio-recorded using a digital voice recorder. Interviews lasted between 10 and 30 min with a mean of 15 min 53 seconds.

Analysis

The audio recordings were transcribed verbatim and all interviews were checked against tapes by the researcher for accuracy. Before the analysis commenced, each transcript was stripped of any identifying names or places before importing into a qualitative software package, NVIVO, version 7 (QSR International, Cambridge, MA, USA). 'Framework Analysis' was chosen for data analysis (Ritchie & Spencer, 1994). Although it uses a thematic approach, framework analysis allows themes to develop both from the research questions and from the narratives of research participants.

As the analysis proceeded, themes were reviewed and refined to develop the thematic framework. The

development of themes was checked by the project supervisor to ensure validity of the data analysis and to reach a consensus on the main themes.

Ethical approval

Ethical approval was granted by both the University of Nottingham Medical School Ethics Committee and also Barnsley Research Governance Social Care (a member of the Barnsley Health and Social Care Research and Development Alliance).

Results

The final study sample comprised of 23 individuals. Their characteristics are given in Table 3. An equal number of men and women were interviewed from BMBC; however, there were more women than men interviewed from BPCT. All were white British and most ($n = 17$) worked full time. Volunteers from BPCT were all aged >36 years and only two from BMBC were aged ≤ 35 years. Half of those interviewed from BMBC and one from BPCT did not purchase food at work. Nineteen of the volunteers stated that they eat healthily.

Key themes and sub-themes identified (Table 4) are described with quotes below. Participants are identified by their gender and age only to protect the confidentiality of both the organisations and individuals taking part in the interviews who could potentially be identified if further details were disclosed. The links between the questions asked during the interview, quotes provided and the thematic framework developed are given in Table 5.

Table 2 Interview schedule

	Questions
1.	Can you describe what healthy eating means to you?
2.	On a scale of 1–10 how concerned are you about what you eat and drink and what influences what you eat and drink? <i>Prompts:</i> workplace food provision, support at home, health, fitness, well being, children, weight control
3.	How would you describe the food and drink available to purchase from your place of work? <i>Prompts:</i> value for money, good variety, healthy choices, good quality, appealing, adequate portion sizes
4.	Are there any improvements you would like to see in the types and choices of foods and drinks on offer? <i>Prompts:</i> more variety, greater selection of choice throughout the day, more healthy choices, different portion sizes
5.	On a scale of 1–10, how important do you feel it is for your employer to provide healthy food and drink choices and promote healthy eating and why? Where do you think they are currently?
6.	Do you feel there are things that stop people from choosing healthy food and drink options at work and if so what are these? <i>Prompts:</i> price, not enough variety, peer pressure, unsure as to what the healthy options are
7.	Do you have any suggestions as to how we can encourage and make it easier for people to eat healthy food and drink choices at work? <i>Prompts:</i> more variety, easier access, more choice in vending machines, signposting to healthy choices
8. Catering staff only	As a member of the catering staff do you feel that you have a role in promoting healthy eating at work and if so how? <i>Prompts:</i> promoting healthy options, cooking methods, promotional events, leaflets
9.	And, finally, is there anything else you want to tell me or say about the food and drink provision in your workplace?

Table 3 Details of participants interviewed

Characteristics per workplace			
	Barnsley Primary Care Trust	Barnsley Metropolitan Borough Council	Total
Characteristics			
<i>Sex</i>			
Men	4	6	10
Women	7	6	13
<i>Ethnicity</i>			
White, British	11	12	23
<i>Hours worked</i>			
Full time	8	9	17
More than 30 h but less than full time	3	1	4
16–30 h	0	2	2
<i>Staff group</i>			
Senior manager	2	2	4
Middle manager/clinical staff	2	2	4
Semi-skilled/unskilled	4	4	8
Catering	3	3	6
Elected member (councillor/local politician)	0	1	1
<i>Age group (years)</i>			
16–25	0	1	1
26–35	0	1	1
36–45	6	3	9
46–55	3	5	8
56–65	2	2	4
<i>Purchase food at work</i>			
Never	1	6	7
Once a week	4	3	7
Most days	4	3	7
Every day	2	0	2
<i>Current eating habits</i>			
Doesn't eat healthily and no plans to do so	1	2	3
Doesn't eat healthily but plans to do so in next 6 months	0	1	1
Eaten healthily but for less than 6 months	2	3	5
Eats healthily	8	6	14

Workplace structures and systems

Organisational structures and systems appeared to impact the eating behaviours of staff in four different areas: the

Table 4 Thematic framework

Theme	Sub-themes
Workplace structures and systems	Change in workforce demographics
	Facilities and staff
	Work–life balance
Cost, choice and availability of food	Catering service to run as a business
	Food and drink access in the workplace
	Vending in the workplace
Personal versus institutional influences	Personal autonomy and responsibility
	Health and medical constraints
	Institutional responsibility
Food messages and marketing	Education
	Family influences
	Advertising and promotion

change in workforce demographics, facilities available, work–life balance and the need for catering services to run as a business.

Change in workforce demographics

For many staff, there was a perception that food provision focused on traditional 'stodgy' foods aimed at manual labourers.

'The canteen does sort of nursery food. It's just a feeling that the food in Barnsley has always been, you know quite high calorie, almost like workers' food rather than office workers' food' (17: F, 36–45)

There was an understanding by caterers that they are providing food for a diverse range of individuals along with an acknowledgement that, as the workforce changes to more sedentary office-based workers, there is a need for less calorific foods to be available.

'So you were feeding men, and it were their main meal of the day, and this were how it used to be. Well now, biggest part of your NHS now is office staff and all your office staff its like me I'm sat on my butt now, seven hours a day and I'm not doing no exercise and it's like, if I keep stuffing food in the way that I used to eat it, I'm going to be a bit of a porker aren't I?' (6: M, 36–45)

Facilities and staff

Equity of access to facilities was described. A person's base within the organisation appears to dictate what food is eaten. For those with no on site workplace food provi-

Table 5 Questions posed during interview linked to quotes and the thematic framework

Question	Quote	Thematic framework
1. Can you describe what healthy eating means to you?	'Eating isn't really devolved from healthy activity in terms of exercise, so I wouldn't really see one as sort of altering the other. Though in terms of exercise, people getting out and getting away from the desk, there is a balance between the two' (10: F, 46–55)	Personal autonomy and responsibility
	'Well, things have got to be prepared to come to work either in the morning or at night. As I said, the wife controls what I eat and it is sometimes probably inconvenient for her to make me food' (22: M, 36–45)	Family influences
2. How concerned are you about what you eat and drink and what influences what you eat and drink?	'The biggest influence for me is having children. Being aware of what I have in the house. What I eat and what they eat. And it's made me think a lot more about what we all eat. And how easy it is to make unhealthy choices if you don't have healthy choices in front of you' (17: F, 36–45)	Family influences
3. How would you describe the food and drink available to purchase from your place of work?	'I think it may need retraining and overseeing. You know they just go over there and they do their own thing. Because none of the managers work here' (5: F, 56–65)	Facilities and staff
4. Are there any improvements you would like to see in the types and choices of foods and drinks on offer?	'So you were feeding men, and it were their main meal of the day, and this were how it used to be. Well now, biggest part of your NHS now is office staff and all our office staff it's like me I'm sat on my butt now, 7 hours a day and I'm doing no exercise and it's like, if I keep stuffing food in the way that I used to eat it, I'm going to be a porker aren't I?' (6: M, 36–45)	Change in workplace demographics
	'There are people within the organisation that work very hard and the demands and the pressures that are put on them, mean that they will often miss out on lunch and will work through' (15: M, 46–55)	Work–life balance
	'We are a commercial venture and we have to try and, you know we've got to satisfy our customer's needs otherwise we'll go out of business and there won't be the provision of catering at all ... we have to cover our costs, so it would be absolute folly of me to think that I could just sell nothing but healthy options because people would, you know, vote with their feet. But, neither am I looking to make vast amounts of profit on the back of people's health' (14: F, 46–55)	Running as a business
	'I think we've got quite a good variety. Now whether us customers at 1.00 o'clock that come in and think we've got quite a wide variety when everything's nearly gone. Now we do find that hard sometimes' (12: F, 36–45)	Food choices in the workplace
	'Access to some kind of sustenance isn't there, again it wouldn't be under the wit of man to put next to the Coke machine, snack bars ... if you can afford to have a, a drinks vending machine, surely you can afford to have a snack machine?' (15: M, 46–55)	Vending in the workplace
5. How important do you feel it is for your employer to provide healthy food and drink choices and promote healthy eating and why? Where do you think they are currently?	'The canteen does sort of nursery food. It's just a feeling that the food in Barnsley has always been, you know quite high calorie, almost like workers' food rather than office workers' food' (17: F, 36–45)	Change in workplace demographics
	'We haven't got anything and people have to bring their own and when you're busy, they bring packet noodles, they bring a tin of cheap horrible soup, a packet soup, they bring whatever they can' (8: F, 46–55)	Facilities and staff

Table 5 (Continued)

Question	Quote	Thematic framework
	'I think they're emphasising it a bit too much, especially like for the staff. We have got our own minds, we can decide what we want and we know what to eat and what not to' (18: F, 46–55)	Personal autonomy and responsibility
	'As the NHS, we should be setting an example. They won't allow people to smoke on any NHS property but they will let people eat terrible food and they'll encourage them by providing terrible food, to eat badly, which is just as bad for your health as smoking is' (5: F, 56–65)	Institutional responsibility
6. Do you feel there are things that stop people from choosing healthy food and drink options at work and if so what are these?	'It's [healthy food] too dear. It's cheaper to eat bad than it is good for you' (23: M, 16–25)	Cost-benefit of healthy foods
	'Being able to afford the bad choices. An overwhelming choice of bad choices and low willpower I suppose ... you know there is a limited choice of good choices' (17: F, 36–45)	Cost-benefit of healthy foods
	'I think we've really got to start with school kids. You've got to have almost a captive audience and get them to understand that an apple is better than a portion of chips, you know. The sooner they start in nursery and primary schools, better chance' (11: M, 56–65)	Education
7. Do you have any suggestions how we can encourage and make it easier for people to eat healthy food and drink choices at work?	'[T]he actual area that people are eating in ... things like ventilation, [so] there's no boiled cabbage smell' (1: F, 46–55)	Facilities and staff
	'Sometimes we find as catering, the price is prohibitive. And there's loads of things we'd love to do but, at the end of the day, people have got to be prepared to pay the price haven't they?' (14: F, 46–55)	Cost-benefit of healthy foods
	'You know they say you should eat your five fruit and veg, they did little things, little competitions with all different sorts of fruits. Once they've gone, you can't get it. Because you go the next day and say "can I have some of that fruit like what they were doing" and its not there' (21: M, 46–55)	Advertising and promoting
	'I think we are becoming in danger, in things like food and exercise, is some kind of prescription rather than some kind of enjoyment, which I think food should be and maybe just by making sure we always offer healthy nutritious food that's local and people -just enjoy it, the by-product is that its healthy' (7: F, 36–45)	Advertising and promoting
8. As a member of the catering staff, do you feel that you have a role in promoting healthy eating at work and if so how?	'I don't think its up to me to like, push people, because I mean, they're adults aren't they, so its up to them what they eat at the end of the day but, if someone actually asked me I'd, I would tell them which were the healthier options, as far as I knew' (19: F, 46–55)	Personal autonomy and responsibility
9. Is there anything else you want to tell or say about the food and drink provision in your workplace?	'[W]e have quite a limited space downstairs for eating like a proper meal, we've got quite a small break out area. I think it probably does encourage snacking at your desk and given that the range of snacks aren't terribly healthy, there's almost an overwhelming push to eating poorer quality food' (17: F, 36–45)	Facilities and staff

sion, poor eating habits are seen to be a result of the lack of facilities available.

'We haven't got anything and people have to bring their own and when you're busy, they bring packet noodles, they bring a tin of cheap, horrible soup, a packet soup, they bring whatever they can' (8: F, 46–55)

'We have quite a limited space downstairs for eating like a proper meal, we've got quite a small break-out area. I think it probably does encourage snacking at your desk and, given that the range of snacks aren't terribly healthy, there's almost an overwhelming push to eating poorer quality food' (17: F, 36–45)

Dining areas were described as uninviting and were felt to be unpleasant.

'... [T]he actual area that people are eating in ... things like ventilation, [so] there's no boiled cabbage smell' (1: F, 46–55)

It was reported that training along with more managerial supervision was needed to improve the behaviours and attitudes of catering staff to support improvements in food provision.

'I think it may need retraining and overseeing. You know they just go over there and they do their own thing. Because none of the managers work here' (5: F, 56–65)

Work-life balance

There was a culture of not taking lunch because of time constraints and tight deadlines imposed upon staff as a result of volume of work expected.

'There are people within the organisation that work very hard and the demands and the pressures that are put on them, mean that they will often miss out on lunch and will work through' (15: M, 46–55)

Running as a business

Catering staff are driven to run a financially viable service, and so supply foods that sell. They felt that most staff do not want healthy options and pick less healthy options. Frustration was reported when healthier choices are provided which do not get chosen.

'We are a commercial venture and we have to try and, you know we've got to satisfy our customer's needs otherwise we'll go out of business and there won't be the provision of catering at all ... we have to cover our costs, so it would be absolutely folly of me to

think that I could just sell nothing but healthy options because people would, you know, vote with their feet. But neither am I looking to make vast amounts of profit on the back of people's health' (14: F, 46–55)

Cost, choice and availability of food

The food choices available in the workplace were described by most interviewed. Cost, lack of imagination in the choices available and convenience all affected eating behaviours at work. Most reported that healthier food options were more expensive.

Cost-benefit of healthy foods

Many staff felt frustrated at the lack of what they perceived to be affordable, appetising, healthier food and drink choices in the workplace.

'It's [healthy food] too dear. It's cheaper to eat bad than it is good for you' (23: M, 16–25)

'Being able to afford the bad choices. An overwhelming choice of bad choices and low willpower I suppose ... You know there is very limited choice of good choices' (17: F, 36–45)

Caterers were reluctant to promote healthier options that were more expensive and less likely to be purchased.

'Sometimes we find as catering, the price is prohibitive. And there's loads of things that we'd love to do but, at the end of the day, people have got to be prepared to pay the price haven't they?' (14: F, 46–55)

Food choices in the workplace

Catering staff felt that the choices available were good, although acknowledged that the number of choices available is less towards the end of service.

'I think we've got quite a good variety. Now whether us customers at 1.00 o'clock that come in and think we've got quite a wide variety when everything's nearly gone. Now we do find that hard sometimes' (12: F, 36–45)

Vending in the workplace

Concern was raised that vending machines promote unhealthy snacking. For staff in buildings with no catering provision, food-vending machines were requested to enable access to food if unable to leave the office.

'Access to some kind of sustenance isn't there; again, it wouldn't be under the wit of man to put next to the Coke machine, snack bars ... if you can afford

to have a, a drink's vending machine, surely you can afford to have a snack machine?' (15: M, 46–55)

Personal versus institutional influences

There was a dichotomy between institutional and personal responsibility in relation to the promotion of healthy eating.

Personal autonomy and responsibility

Staff generally felt that food choice is a personal issue and it is not the responsibility of their employer. Catering staff reported that they felt able to advise on healthier options if requested.

'I think they're emphasising it a bit too much, especially like for the staff. We have got our own minds, we can decide what we want and we know what to eat and what not to' (18: F, 46–55)

'I don't think it's up to me to like, push people, because I mean, they're adults aren't they, so it's up to them what they eat at the end of the day but, if somebody actually asked me I'd, I would tell them which were the healthier options, as far as I knew' (19: F, 46–55)

There was a reported lack of options available for those who are either vegetarian or who have a medical condition. Many suggested that, for a healthy lifestyle, it was important to consider physical activity alongside food.

'Eating isn't really devolved from healthy activity in terms of exercise, so I wouldn't really see one as sort of altering the other. Though in terms of exercise, people going out and getting away from the desk, there is a balance between the two' (10: F, 46–55)

Institutional responsibility

Staff felt that the public sector should promote healthy eating in the workplace and need to consider sustainability and environmental issues.

'As the NHS, we should be setting an example. They won't allow people to smoke on any NHS property but they will let people eat terrible food and they'll encourage them by providing terrible food, to eat badly, which is just as bad for your health as smoking is' (5: F, 56–65)

Food messages and marketing

There were fewer opinions on this; however, the way food was provided and marketed was felt to have an influence on food choices.

Education

For one individual, educating school children rather than adults in workplaces was felt to be more important.

'I think we've really got to start with school kids. You've got to have almost a captive audience and get them to understand that an apple is better than a portion of chips, you know. The sooner they start in nursery and primary schools, better chance' (11: M, 56–65)

Family influences

The partners of manual male workers appeared to have a strong influence on food both at home and work.

'Well, things have got to be prepared to come to work either in the morning or at night. As I said, the wife controls what I eat and it is sometimes probably inconvenient for her to make me food' (22: M, 36–45)

For those with young children being a good role model was important.

'The biggest influence for me is having children. Being aware of what I have in the house. What I eat and what they eat. And it's made me think a lot more about what we all eat. And how easy it is to make unhealthy choices if you don't have healthy choices in front of you' (17: F, 36–45)

Advertising and promotion

Food being promoted in the workplace was perceived as calorie dense. Suggestions to promote healthy eating included special offer days, tasting sessions and better labelling of menus. Concern was raised that, following tasting sessions, the food was not available on a day to day basis. This was viewed as a waste of time.

'You know they say you should eat your five fruit and veg, they did little competitions with all different sorts of fruit. Once they've gone, you can't get it. Because you go next day and say "Can I have some fruit like what they were doing" and it's not there' (21: M, 46–55)

One person felt that advertising food as being healthy wasn't positive as it made food sound as if it was a 'prescription' rather than being a social activity that should be enjoyed.

'I think we are becoming in danger, in things like food and exercise, is some kind of prescription rather than some kind of enjoyment, which I think food should be and maybe just by making sure we

always offer healthy, nutritious food that's local and people just enjoy it, the by-product is that it's healthy' (7: F, 36–45)

Discussion

The aim of the present study was to establish the perceptions and views of public sector staff, including catering staff, on food provision and healthy eating in the workplace. The main findings from each of the themes identified in the present study are discussed.

Structures and systems within the workplace have a significant role in dietary behaviours. Interestingly, the present study identified that staff felt that the food provision had not changed to take into account the change in work now being undertaken by the workforce. Food was perceived as being calorie dense and suitable for manual labourers. In Finland, workplace food provision is based on the national dietary recommendations and seen as important in improving the food habits among the population (Raulio *et al.*, 2010). Employees in Finland who frequently have their lunch at a worksite canteen tend to make food choices closer to the nutritional recommendations (Roos *et al.*, 2004; Raulio *et al.*, 2010). Some of the perceived barriers found are similar to other studies. These include the facilities available (Faugier *et al.*, 2001a,b; Sorensen *et al.*, 2004), training of staff (Holdsworth & Haslam, 1998), long hours worked as a result of high workloads, and work pressures and a culture that encourages working through breaks (Devine *et al.*, 2003; Devine *et al.*, 2007). Not taking time for lunch can affect both health and productivity (Wanjek, 2005; Jabs & Devine, 2006). The conflict between promoting a greater range of healthier foods and business constraints has previously been identified (Steenhuis *et al.*, 2004).

Choice, availability and the cost of food were seen as being important. Perceptions of food choices available were different between catering staff and other staff. Most staff felt that food lacked quality and imagination. The lack of affordable acceptable food options available has previously been identified as a barrier (Anderson *et al.*, 1998). Catering staff felt that a wide variety of foods were provided under the constraints they had to work under. Training of staff has been seen as essential to encourage the provision of tasty, healthy meals (Holdsworth & Haslam, 1998). In the present study, cost is a factor influencing food choice across all age groups, although a previous study has suggested that cost is more important for younger workers (Blanck *et al.*, 2007). Unlike Finland and Sweden, subsidised meals in the UK workplace are uncommon (Raulio *et al.*, 2010). Therefore, if food is seen to be expensive, workplace canteens will not be used.

With rising food prices, this may have a negative impact on eating habits in both the workplace and at home.

The present study, similar to others (Lassen *et al.*, 2007; Young & Bhaumik, 2011) found that foods eaten should be a personal choice. The lack of vegetarian and options for special diets has also been previously identified (Devine *et al.*, 2003). Staff did, however, feel that the public sector should take a lead in promoting healthy eating. It could be argued that those interested in healthy eating who wish to see this type of improvement volunteered to be interviewed.

The way that food is promoted and marketed was mentioned although infrequently. For one person, it was felt that nutrition promotion work should focus on children and not adults in the workplace. The role that other family members had on food choices, particularly partners and children, was identified. A number of the male semi-skilled/unskilled staff interviewed were reliant on their partner/family members for their mid-day meal. Masculinity and occupational class has previously been seen as playing a key role in food preferences and practices (Roos *et al.*, 2001). Studies have identified that successful nutrition interventions should extend to workers families to support changes in eating behaviour (Sorensen *et al.*, 1998, 1999; Devine *et al.*, 2003).

The limitations of the present study include the small number of people interviewed, which may not be representative of the breadth of the workforce. All staff interviewed were white British (reflective of the local population in which less than 3% are from ethnic minority groups) and spoke English as a first language. Self selection may also mean that those who volunteered to be interviewed were more interested in food and nutrition.

The present study, however, is unique because it has considered the viewpoints of a wide range of staff on food provision in two UK public sector workplaces. Unlike other studies, staff felt that food provision and choice need to change as workforce demographics alter, that the attitudes and behaviours of catering staff are important, and that public sector employers should promote healthy eating in the workplace. It has identified a complex picture of views and opinions about healthy eating in the workplace and the consequent challenge to design effective workplace healthy-eating interventions. Conclusions must be drawn with caution because the present study focused on two workplaces, both of which are public sector workplaces that have in-house catering services, and both of which are in Barnsley. The findings may be appropriate to other public sector workplaces in South Yorkshire, and possibly the rest of the Yorkshire

and the Humber region, although they may not be generalisable to other workplaces such as the private sector or those with contract caterers.

Acknowledgments

We thank Stacey Anderson for her advice on the analysis, Michèle Clark for the loan of the recorder and Liz Fraser for transcribing the interviews, as well as all those who volunteered to be interviewed.

Conflict of interests, source of funding and authorship

The authors declare that they have no conflicts of interest. Barnsley Health and Social Care Research Alliance funded part of this research along with the Directorate of Public Health Barnsley.

AP designed the study and carried out data collection. Both authors contributed to the analysis and interpretation of results and to writing the manuscript. Both authors critically reviewed the manuscript and approved the final version submitted for publication.

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