

SME allergen provision in the non-prepacked sector

Area of research interest: [Food hypersensitivity](#)

Study duration: 2023-01-01

Project status: Completed

Conducted by: Basis Social

DOI: <https://doi.org/10.46756/sci.fsa.ezn529>

Executive Summary - SME allergen provision in the non-prepacked sector

Results available: Results available

Area of research interest: [Food hypersensitivity](#)

Research topics: [Food hypersensitivity and allergy](#)

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(600.52 KB)

This report presents the findings of qualitative research commissioned by the Food Standards Agency (FSA) and delivered by Basis Social. More specifically, the research had four objectives to understand:

- How SMEs currently provide allergen information to consumers and the reasons for this approach.
- The challenges SMEs face in managing allergen cross-contact.
- The challenges SMEs face in providing accurate allergen information to consumers.
- The challenges and benefits of a range of different options for providing allergen information to consumers.

To achieve these objectives, Basis Social designed and delivered a programme of research consisting of three workstreams:

- online interviews with 30 SME food businesses.
- short (2-3 hr) face-to-face ethnographic deep dives with an additional 10 SME food businesses.
- online interviews with 6 representatives of trade bodies working with SMEs.

Each of these workstreams was conducted simultaneously, with fieldwork taking place between January and February 2023.

How SMEs currently provide allergen information to consumers, and the reasons for this approach

The research found that SMEs communicate allergen information using different methods and approaches. The most common approach followed by businesses that took part in this study was to use written signs prompting customers with FHS requirements to identify themselves. Once a customer does so, businesses talk to them to gain a better understanding of their requirements and to determine whether any solutions or alternatives that are safe for the customer to eat are available. However, different approaches were also identified. These included (but were not limited to):

- Signposting using a menu rather than a standalone sign
- Including written information about allergens on a menu, either by including a list of ingredients or indicating allergens that are present
- Using labelling on pre-made products and dishes to present allergen information
- Asking each and every customer whether they have any FHS requirements
- Only asking specific customers whether they have any FHS requirements in response to certain prompts, for example, if a customer shows interest in an allergen-free product

The research highlighted how business owners and staff's beliefs affected their choice of what method of communication to use. Business owners and staff use methods of communication that they believe will be effective in improving customer safety and will enhance the quality of customer relations and visual appeal of the business overall. However, businesses sometimes hold differing opinions about what methods best fit with these criteria. Furthermore, these opinions are also influenced by beliefs about how prevalent food hypersensitivities are within the population, and beliefs about what FHS customers will do and should do regarding their food hypersensitivity and eating out.

The research also showed that decisions about which approach to take are affected by the characteristics of the business itself. Characteristics found to influence these decisions included:

- service model - for example, businesses using a table service model were distinctive for using menus to communicate allergen information, and for requiring servers to ask each and every customer if they have any FHS requirements.
- business size - businesses with more staff who performed specialised roles (e.g. Chef, Front of House etc) were more likely to use written documentation (such as food matrixes) and encourage communication between kitchen and front-of-house staff to ensure that the relevant information is accessible to the staff member or customer who needs it.
- service environment - businesses with busy and fast-paced service environments reported concerns about the feasibility of asking each customer about their FHS, and preferred to use either signposting approaches or proactive written communication to inform customers about allergens.
- dishes and products served - dishes with lots of ingredients were considered as requiring more time and effort to identify and include relevant allergen information on menus. Businesses with menus that change regularly, or which make dishes to order, considered including allergen information on menus impractical due to the sheer number of potential dishes which customers could order.
- the media (for example, menus, signs, labels) a business uses to advertise product and dishes – for example, businesses with small menus reported that it would be impractical for them to include allergen information on the menu.

The research also found evidence of businesses using certain methods because they presented a lower financial and/or time cost option compared with alternatives.

The challenges SMEs face in managing allergen cross-contact

This research shows that cross-contact risk management occurs at multiple points, from the design of menus through to food preparation, food storage, food display and the service of food to the customer. The research also illustrated how businesses try to ensure that staff have undergone formative education and training in food safety, for example by requiring staff to complete food safety qualifications.

In terms of challenges associated with managing allergen cross-contact effectively, the research indicates that SMEs may face a range of barriers that contribute to staff lacking the requisite levels of knowledge to manage cross-contact risks effectively. These barriers may be exacerbated by a lack of opportunities for SMEs to hire well-trained staff and access standardised, practical training. Businesses with access to accredited training providers, that receive prompts reminding them to update their knowledge, and who can retain and employ staff with a long tenure in food service are best placed to overcome these capability barriers.

The research also suggests that some businesses preparing food in small kitchens and serving dishes from small service areas find it difficult to control cross-contact risks. To overcome this barrier, there is evidence of businesses preparing food in stages and cleaning surfaces and utensils between each stage. To control risk at the food preparation stage, some businesses order products (such as gluten-free cakes) that are safe for customers with specific FHS requirements to eat from third parties, thereby ensuring that these products are made in an allergen-free environment. To control risk at the service stage, some businesses pack allergen-free products to ensure they do not come into contact with other products on display.

Finally, some SMEs may be reliant on local cash and carries or other smaller suppliers to source ingredients as and when they need them. This means that certain ingredients are more likely to be unavailable at short notice, and therefore these businesses are forced to make substitutions more regularly. This can have a significant impact on a business's ability to plan out process for separating and managing cross-contact risks when preparing non-prepacked food items.

The challenges SMEs face in providing accurate allergen information to consumers

The research found evidence of businesses using a mix of different methods for ensuring the accuracy of the allergen information they provide to customers. These methods can be classified according to when they occur (that is, before or after a customer has notified the business about an FHS requirement) and how the information is communicated (verbally or in writing). Examples of methods classified at different points along these two dimensions included:

- Using written information/food matrices to inform staff about allergen risks (proactive, written)
- Talking with suppliers to identify allergen risks present in deliveries (proactive, verbal)
- Using a label or sticker on a food item when it is given to customer to confirm that it has been made allergen free (reactive, written)
- Verbally communicating customer FHS risks to kitchen staff (reactive, verbal)

The research also highlighted a range of barriers which can limit the capability of staff to provide accurate allergen information to customers. Limited and inconsistent staff knowledge about what allergens are present in the dishes served by the business may be exacerbated by factors including insecure supply chains; missing, out-of-date or incomplete written information on allergens; and more knowledgeable staff being too busy to educate other staff to the requisite

standard. Strategies employed by FBOs to try and overcome capability barriers include training staff, giving them access to comprehensive, written allergen information, and ensuring good lines of communication from kitchen to customers.

It is important, however, to note that the costs of creating and updating written allergen information mean that some businesses may not have such information to hand. Moreover, using small and non-durable materials for communicating written information may limit the accuracy of the information provided. Both challenges may be overcome by investing in technology for managing allergen information, however, these can also carry a high price tag and require upfront investments in terms of time.

The challenges and benefits of a range of different options for providing allergen information to consumers

This research tested six potential options for standardising how small- and micro-food businesses selling non-prepacked food could communicate allergen information to customers. The options were as follows:

1. Food businesses to provide a full, written list of ingredients for each dish on the menu
2. Food businesses to provide a full, written list of ingredients for each dish in a separate booklet
3. Food businesses to indicate the presence of any of the 14 regulated allergens in each dish on the menu
4. Food businesses to provide a written notice on a menu or next to the information consumers are using to select their food asking people with allergies or intolerances or coeliac disease to notify staff before ordering food
5. Food businesses to verbally ask all customers whether they have any food allergies or intolerances or coeliac disease
6. Food businesses to verbally confirm to the customer when the food is being served that a dish that has been requested to be free of a particular allergen has been made in such a way as to be free of that ingredient.??

Feedback from businesses and trade body representatives showed that there is currently no clear winner in terms of the options provided. No option drew unanimous support from all businesses and trade bodies, and all received at least some negative feedback in terms of their acceptability, practicality, effectiveness, affordability, potential for unintended consequences, and equity.

However, feedback did indicate somewhat stronger consensus around the unacceptability of including a full, written list of ingredients on menus. This option was negatively received by most businesses except those serving a small number of dishes with limited ingredients. It was generally considered impractical, as well as potentially ineffective by some. FBOs also suggested that it may disadvantage certain types of businesses, such as businesses who are protective of their recipes.

Introduction - SME allergen provision in the non-prepacked sector

Food hypersensitivity (FHS) is a strategic priority for the Food Standards Agency (FSA). In the UK, an estimated two million people are living with a diagnosed food allergy, and 600,000 with Coeliac Disease. It is a significant public health issue that impacts on the quality of life and mental health of those affected.

The FSA aims to ensure that FHS is managed by food businesses, to ensure that the needs of consumers are met and to reduce the risk of harm to consumers with food hypersensitivities. As part of a wide range of work in this area, the FSA is considering potential options to help people with food hypersensitivities make safe, informed decisions when purchasing non-prepacked food such as unwrapped foods or meals.

Currently, businesses selling non-prepacked foods are required to provide information about any of the 14 mandatory allergens set out in Retained EU Legislation (1169/2011) which are present in the food. Allergen information for non-prepacked food can be communicated through a variety of means, such as on a menu, chalkboard or information pack. Where caterers choose not to provide this information upfront in a written format (for example allergen information on the menu), the food business must provide clear written signposting to direct the customer to where this information can be found, such as asking members of staff.

In 2022, the FSA commissioned Britain Thinks to explore [allergen provision in the out of home food sector](#), with a focus on non-prepacked foods. The work identified that while consumers prefer written information, so they can make decisions on their own and have a normal eating out experience, FBOs prefer conversations so that they can understand individual needs and avoid cross-contact when food is being prepared. Responding to various options for standardising how FBOs communicate allergen information to customers, the research also found that a sizable minority of food businesses felt the measures proposed would be unfeasible to adopt with smaller businesses more likely to say this. These measures included:

1. Displaying each of the 14 allergens in dishes on the main menu (32% said would be unfeasible)
2. Food servers being legally required to ask customers about allergies (27% said would be unfeasible)
3. Full ingredients list for each dish to be provided in an allergen matrix (21% said would be unfeasible)

However, as an artefact of sampling, certain FBOs were less well represented in the survey research (including micro business, cafes, takeaways, and mobile food businesses). These businesses are likely to have a range of service models, and this could have an impact on the feasibility of changing the requirements for how allergen information is provided to consumers. For example, cafes or mobile food operators may offer counter service without a menu (rather than table service provided by waiting staff).

The focus of this research was to understand in more detail how micro and small businesses (hereafter SMEs) in the non-prepacked sector provide allergen information to consumers, and the impact of some of the potential options for changes to the provision of allergen information requirements for SMEs across a variety of service models. As part of this process, the FSA were also interested in gathering the views of specialist trade associations.

The core method involved online interviews with 30 owners of SME FBOs across England, Wales and Northern Ireland. Questions were tailored for FBOs operating under different service models, and employing different communication practices for providing customers with allergen information. These interviews also examined business' perspectives on various options which could be considered by the FSA for standardising the communication of allergen information to customers. The topic guide used in the research can be found in the appendices.

To enrich and contextualise the findings of the interviews, the research also involved:

- Short (2-3 hour) ethnographic deep dives with 10 additional FBOs, to bring to life the allergen management and communication behaviours of different food businesses. The deep dives used participant observation to explore how customers are served. During the

deep dives, researchers also recorded the physical layout and culture of the business by taking photographs, and made notes suggesting these environmental factors may influence behaviour. These FBOs were also interviewed on site, following the same topic guide as the online depth interviews.

- online interviews with representatives of 6 trade bodies working with small- and micro-food businesses, to gain a sector wide perspective on the risk management and communication behaviours of FBOs working in the non-prepacked sector. Additionally, trade bodies' views on options for standardising allergen risk communication practices were explored.

The research used the COM-B behavioural model to systematically classify influences on how businesses provide allergen information to customers. It also used the COM-B behavioural model to identify the barriers and enablers for businesses to manage cross-contact risks and to provide accurate allergen information to customers. COM-B identifies three factors that need to be present for any behaviour to occur: capability, opportunity and motivation. [\(footnote 1\)](#) In the context of this research, it includes factors such as knowledge about legal duties, the physical space to display allergen information, beliefs about allergen risks, habits around communication, and what is considered normal in the sector.

Finally, the APEASE framework was applied to analyse interviewees' perspectives on the proposed options. [\(footnote 2\)](#) This framework specifies a set of criteria to apply when making judgements about possible interventions to change behaviour. The criteria are Acceptability, Practicability, Effectiveness, Affordability, Side-effects, and Equity.

This report presents the results of this analysis, together with a discussion of the implications of the findings for the FSA. The next section provides an overview of the research objectives, methods and sample.

1. Public Health England 2020. 'Achieving behaviour change: A guide for national government'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/93332
2. Ibid.

Objectives and Methods - SME allergen provision in the non-prepacked sector

Objectives

The study had four objectives. To understand:

1. How SMEs currently provide allergen information to consumers (including any written or digital materials) and the reasons for this approach.
2. The challenges SMEs face in managing allergen cross-contact.
3. The challenges SMEs face in providing accurate allergen information to consumers. T
4. The challenges and benefits for SMEs of a range of different options for providing allergen information to consumers.

Methods

This research consisted of three methods, which were implemented simultaneously between January and February 2023.

1. Online interviews with SME FBOs (x30)

Online interviews with SME FBOs were undertaken to understand whether and how allergen information is provided to customers across a range of different service models. The interviews also explored how cross-contact was managed in the kitchen and the views of businesses on different options for providing allergen information. Online interviews were conducted via Zoom using a semi-structured topic guide (see Appendix A: FBO Online Interview Topic Guide). Each interview lasted one hour and was recorded with the interviewee's consent. Recordings were uploaded to an online qualitative data analysis platform, which was used to manage, organise and interpret the data collected. As part of this process, a codeframe was developed to serve as the basis for coding and analysing the raw data (see Appendix B: Online Interview Analysis Codeframe. If you would like to see this appendix, please email fsa.communications@food.gov.uk).

In advance of the online interview, FBOs were requested to complete a short pre-task requiring them to send in photos of different parts of their business, such as the kitchen and service area (see Appendix C: FBO Online Interview Pre-task, for more details. If you would like to see this appendix, please email fsa.communications@food.gov.uk). These photos were used as stimulus during the interview, to allow both the interviewer and interviewee to refer to ways in which the physical layout of the business influences behaviour.

Recruitment for online interviews was conducted via Acumen using free-find methods. An incentive of £100 was paid to FBOs who participated in an online interview.

2. Face-to-face ethnographic deep dives (x10)

Face-to-face ethnographic deep dives were conducted with an additional 10 FBOs. The purpose of the ethnography was to observe how physical and environmental factors influenced allergen information provision. It also enabled the research team to see first-hand how customers are served. For each deep dive, a researcher spent between 2-3 hours at a food business. During this period, the researcher:

- interviewed the owner or manager of the business, using the same topic guide as used for the online interviews. Most of these interviews were not recorded due to background noise and to ensure that the interviewee could attend to the day-to-day management of the business if required during the interview. However, where the environment allowed and the participant gave permission, interviews were recorded to give a record of the discussion for analysis.
- observed the business in action, using a Fieldwork Notes Template (see Appendix D. If you would like to see this appendix, please email fsa.communications@food.gov.uk). This template included sections for the researcher to capture observations of the physical layout of the business, the culture and ambience of the business, and whether and how allergen information is provided to customers when they are served. With the business owner or manager's permissions, the researcher also included photographs as part of these observations.

Recruitment for ethnographic deep dives was conducted via Acumen using free-find methods. An incentive of £120 was paid to FBOs who participated in the ethnographic deep dives.

3. Online interviews with trade body representatives (x6)

Interviews with trade bodies were undertaken to explore issues regarding allergen information provision in SME FBOs at a strategic and sector wide level. One-hour online interviews were conducted via Zoom using a semi-structured topic guide (see Appendix E: Online Interview Topic Guide).

Each interview was recorded with the interviewee's consent. Recordings were uploaded to the same online qualitative data analysis platform as the FBO interviews and were analysed using the same codeframe (see Appendix B: Online Interview Analysis Codeframe. If you would like to see this appendix, please email fsa.communications@food.gov.uk).

Recruitment for online interviews was conducted via Acumen using free-find methods, however, trade body representatives were not paid for their time.

Achieved sample

This section provides an overview of the businesses and trade bodies that participated in this research.

Table 1 provides an overview of the sampling characteristics of all 40 FBOs who participated in both the online interviews and ethnographic deep dives, as well as the characteristics of those who took part in ethnographic observations, specifically. Table 2 presents the names of trade body organisations that took part in the research.

Table 1: FBO Sample

Sampling characteristic	Achieved quota
Total	40

Size of business

Sampling characteristic	Achieved quota
Micro business (less than 20)	23
Small (less than 49)	17

Sector

Sampling characteristic	Achieved quota
Catering	25
Restaurants	6

Sampling characteristic	Achieved quota
B&Bs	1
Pubs and bars	2
Cafes	6
Leisure and entertainment venues	3
Mobile catering	7
Retail	10
Delicatessens	3
Bakers	4
Fishmongers	1
Butchers	2
Institutions	5
Care homes and hospitals	1
Nurseries and schools	4

Service delivery model

Sampling characteristic	Achieved quota
Takeaways	10
Counter services	12
Table service	8

Sampling characteristic	Achieved quota
Market stalls	3
Mobile food vans	7
Food for online delivery	12

How allergen information communicated

Sampling characteristic	Achieved quota
Menu	14
Online menus only	6
Display boards	10
Other notices	5
Predominantly verbal	5

Food packaging

Sampling characteristic	Achieved quota
Non-prepacked only	23
PPDS, distance selling & non-prepacked	17

Region

Sampling characteristic	Achieved quota
Wales	10

Sampling characteristic	Achieved quota
NI	9
NW England	8
NE England	4
Midlands	4
London and SE	5
SW England	3

Allergen policy

Sampling characteristic	Achieved quota
No allergen policy in place	9

Food hygiene

Sampling characteristic	Achieved quota
Rating 1-3	10
Rating 4-5	30

Ethnographic sub sample

Sampling characteristic	Achieved quota
Takeaways	2
Counter service	2

Sampling characteristic	Achieved quota
Table service	2
Market stalls	2
Business selling via mobile food vans	2
London	2
England	4
Wales	2
NI	2

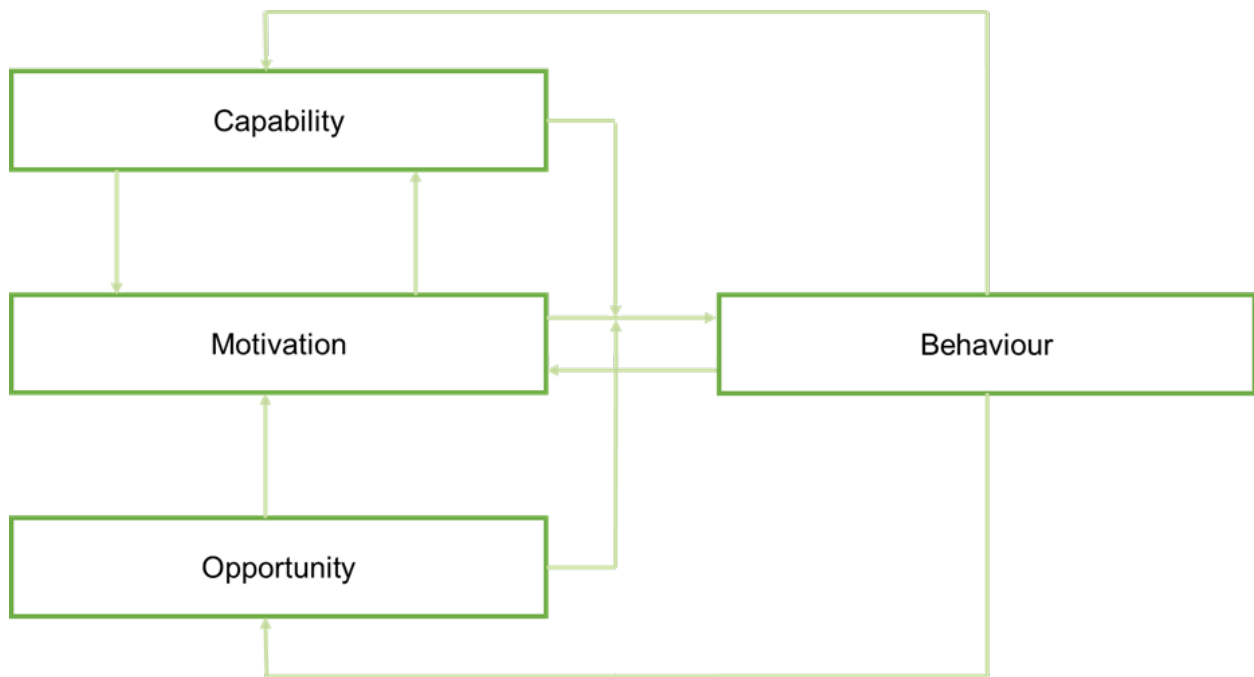
Table 2: Trade Body Sample

No.	Trade body organisation
1	British Sandwich Association
2	UK Hospitality
3	Welsh – School Caterers Association
4	Nationwide Caterers Association
5	Institute of Hospitality
6	Safer Food Scores (via Craft Bakers Association)

Analysis

The overall analysis of the study was informed by the COM-B behavioural model (see Figure 1).

Figure 1: The COM-B behavioural model



The COM-B model is a 'behavioural system'. It identifies three factors that need to be present for any behaviour to occur: capability, opportunity and motivation.

Capability refers to whether a person has the knowledge, skills and abilities required to engage in a particular behaviour.

Opportunity refers to the external factors which make the execution of a behaviour possible. These include opportunities provided by the environment, such as time, location and resource, and also opportunities as a result of social factors, such as cultural norms and social cues.

Motivation refers to the internal processes which influence our decision making and behaviours. These include our values and beliefs, as well as automatic processes such as our desires, impulses and inhibitions.

These factors interact over time so that behaviour can be seen as part of a dynamic system with positive and negative feedback loops. For example, not having the capability or opportunity to perform a behaviour can make it more difficult to perform, decreasing a person's motivation to perform the behaviour. Similarly, engaging in a behaviour is a form of practice, and as such can lead to increased capability and reduced time and energy costs (a form of opportunity) associated with performing that behaviour. These feedback loops are illustrated by the arrows in Figure 1.

Findings - SME allergen provision in the non-prepacked sector

How SMEs currently provide allergen information to consumers and the reasons for this approach

Allergen information provision methods

Table 3 provides an overview of the ways in which FBOs communicate about allergens information behaviours reported by FBOs during interviews and observed by researchers during ethnographic deep dives.

As the table illustrates, these methods can be classified along two dimensions:

- When (proactive vs. reactive): this dimension refers to whether FBO communicates about allergens prior to (proactive) or in response to (reactive) a customer indicating that they have an FHS requirement.
- How (written, verbal or signposting): this dimension refers to the medium through which communication occurs. Three types of media were identified in the analysis: written, verbal and signposting.

Table 3: Ways FBOs communicate with customers about allergens

	Proactive	Reactive
Written	<ul style="list-style-type: none"> • Making food matrix visible to customers • Including allergen information on : <ul style="list-style-type: none"> o individual display labels o a written sign o a printed menu o an online menu/app 	<ul style="list-style-type: none"> • Using a food matrix to discuss allergen risks with customers • Using a written booklet of information on allergens to communicate with customers
Verbal	<ul style="list-style-type: none"> • Asking: <ul style="list-style-type: none"> o each customer whether they have any FHS requirements o specific customers whether they have any FHS requirements, based on specific prompts (for example, customer shows interest in an allergen free product) • Advising customers on what they can and cannot eat, based on prior knowledge of customer FHS requirements 	<ul style="list-style-type: none"> • Talking with customers to understand their condition and identify solutions / alternatives
Signposting	<ul style="list-style-type: none"> • Using a written sign requesting customers to notify staff about allergen risks • Using a menu to request customers to notify staff about allergens 	<ul style="list-style-type: none"> • None reported or observed

As this is a qualitative research study, it is not possible to generalise findings for this sample to SMEs more widely. However, for businesses who participated in this study, the following patterns emerged:

- Most FBOs used signposting to direct customers to where they can find allergen information. Most FBOs did this by using a standalone sign hung up somewhere in the business, usually somewhere behind the service counter, although the precise location varied from business to business. Some businesses signposted by including a notice to customers to alert staff of any FHS¹ in the menu itself.
- Businesses that reported or were observed proactively asking customers whether they have any FHS requirements did not rely on verbal communication solely. Instead, they also used written media and/or signposting.
- Proactively advising customers on what they can and cannot eat, based on prior knowledge of customer FHS requirements, was limited to businesses who were familiar with the requirements of specific, returning customers. In this sample, this was limited to institutions like schools, where catering staff know the requirements of each student in advance of service.
- Once a customer alerts a business that they have an FHS requirement, most businesses said they talk to that customer about their requirements. Some said this conversation is facilitated by staff using written media such as a food matrix or booklet as conversation aids. However, there was no evidence of businesses providing customers who reported an FHS requirement with written information only.

These patterns suggest that, for FBOs in this study, the dominant (but by no means only) approach was to use written signs prompting customers with FHS requirements to identify themselves. Once they do so, businesses talk to those customers to gain a better understanding of their requirements and to determine whether any solutions or alternatives that are safe for the customer to eat are available.

Finally, the research also found that there were differences in the level of detail provided and how it was communicated. These are summarised below.

Including allergen information on a printed or online menu

- Some businesses only specified allergens that were present (or not present) in a dish, rather than providing the full list of ingredients.
- Businesses which only specified allergens (rather than all ingredients) varied in terms of whether they did so by using symbols, words or abbreviations (this was also true for other written media, such as signs and labels).
- Some businesses only included allergens perceived by the business as more common, for example, gluten and nuts.

Labelling dishes and products

- Some businesses used handwritten labels, while others used printed labels
- As with menus, businesses varied in terms of whether they communicated allergens present in a dish or product using symbols, words or abbreviations

Factors influencing how information is communicated

Businesses taking part in this research indicated four main reasons for providing customers with allergen information

- **Protecting customers health** – businesses recognised the importance of keeping FHS customers safe.
- **Maintaining reputation** – businesses recognised that endangering the safety of their customers by not providing allergen information risked their reputation. Businesses reported both intrinsic and extrinsic motivations for wanting to maintain their reputation.

Intrinsic motivation stemmed from business owners taking pride in their reputation. Extrinsic motivation stemmed from business' recognising that a good reputation was an important factor for encouraging customers to eat with them. **Avoiding enforcement action** – businesses were aware that there are legal requirements around providing allergen information to customers. However, a small minority reported that they were unclear exactly what was required by law.

- **Social norms and values** – some businesses referenced a set of norms and values within the food service industry promoting the importance of customer safety. These social norms may be particularly strong for businesses which operate in close and visible proximity with other food businesses, such as market stalls and mobile food vans. They are also more likely to influence the behaviour of employees who view food service as a career, as opposed to those who do not share this vocational perspective.

These factors help explain the motivations for businesses to provide allergen information to customers (which mainly relate to a fear of negative consequences if they do not). The following section provides an overview of factors that influenced the allergen information provision. It also provides examples of how specific factors can lead to a business favouring one approach (or selection of approaches) over others.

Differences by service model

Businesses using a table service model are distinctive in how they provide allergen information

As mentioned above, among sampled businesses, the dominant approach to providing allergen information was to use standalone written signs to prompt customers with FHS requirements to identify themselves, after which point staff speak to them to learn more about their requirements. However, only one of nine interviewed table service businesses appeared to follow this approach. The remainder employed a mix of communication methods that were unusual for other service models. These included:

- Signposting using a menu rather than a standalone sign
- Including written information about allergens on a menu
- Asking each customer whether they have any FHS requirements

These findings can be explained in terms of the features of the table service model. Within this model, customers tend to order at their table rather than at a bar or counter. Consequently, table service businesses cannot rely on customers coming to a specific spot to see a standalone sign signposting allergen information and must bring the relevant information to the customer at the table, for example, by communicating it verbally through a waiter, via a menu or by using the menu to signpost the customer to speak to a member of staff.

The ways in which different service models advertise dishes to customers informs their options for providing allergen information, but does not solely determine how they do it

In this sample of businesses there appeared to be a link between the service model and the specific media (such as menus) a business uses to help customers order food. Across the sample, the following patterns were noted:

- Most table service businesses had a printed menu.
- Most takeaways and mobile food vans had an online menu or app.
- Most takeaways had a display board or screen.
- Most counter service, market stalls and takeaways selling baked goods used a display area and product labels.

These patterns are important because the ways which a business uses to help customers order food (such as a menu or display board) ultimately shapes the range of channels through which the business can proactively communicate allergen information. For example, in addition to the distinctive ways in which table service businesses communicate allergen information, the research found evidence of:

- Most sampled takeaways businesses use their website, signs with written information about allergens, or signs signposting FHS customers to speak to a member of staff within the business to communicate allergen information. These methods can be explained in terms of the service model. This model may involve customers ordering in advance, either for delivery or collection. Websites and apps offer one way to do this. Takeaway models may also involve a counter which customers go to order and pick up food, around which signs can be placed to advertise dishes and deals on offer, and also to communicate allergen information.
- Most sampled counter service and market stall businesses use labelling on pre-made products and dishes to present allergen information. These service models can use a display area and product labels to advertise pre-made products (such as cakes) to customers while they are at the service counter. Unlike table service models, all customers must go to the counter to choose and order food, making the counter a key touchpoint for showcasing dishes on offer.

However, the research also shows that not all businesses that already use a specific type of media (such as a menu), use that media to communicate allergen information. For example, while most table service businesses in the sample use a menu, only half of those use their menu to communicate allergen information. Other factors influencing how allergen information is communicated are examined in greater detail below.

Beliefs about effectiveness of communication methods for keeping customers safe

Beliefs about the likely effectiveness of different methods of communication inform choices about which to use. However, there is no consensus about which methods are more effective and why

Some businesses framed their choice of method in terms of its overall effectiveness for keeping customers safe. For example, talking with FHS customers to understand their condition was viewed as important from a food safety perspective. Notably, however, businesses had differing opinions over what types of methods are effective in keeping customers safe. For example, some who provide FHS customers with written information about allergens felt that doing so is safer than a verbal communication approach, as it reduces risks of miscommunication.

“I know the allergens and I listen to the customer because I think the customer is their best doctors in it themselves. So for me, number one is the business listening to what the customer is saying, what their fears, what their allergens are, and then work from there.”

Takeaway business

“[Providing customers with a food matrix] just makes it simpler, really. I mean, the one thing I would say to the staff is not to make the decision for the customer with allergens...because obviously they could really hurt someone.”

Table service business

Beliefs about the effect of different methods of communication on customer relations

Cultivating staff-customer relationships is seen as good for business. Different methods of communication are believed to contribute to customers relations in different ways

Examples of businesses preferring a specific method of communication based on the belief that it will enhance customer relationships included:

- Businesses which preferred verbal communication methods because they saw conversation as the key to cultivating good customer relationships
- Businesses which did not want to ask each and every customer whether they had an FHS requirement out of concern that this would interrupt relationship-building by making the conversation appear overly mechanical and “transactional”
- Businesses which reported providing written information about allergens as a communication strategy for advertising to FHS customers, specifically
- Businesses which provided FHS customers with written information because they believe it will make them feel more reassured and comfortable

Beliefs about the effect of different methods of communication on the visual appeal of the business

FBOs judge and tailor how they communicate written allergen information to preserve and enhance the visual appeal of their business to customers

Several FBOs said they communicate written allergen information in specific ways based on how the end result looks. Their comments indicate the belief that customers respond not just to the content of written information, but also to how that information is presented visually. Given this belief, FBOs seek to present written information in a way that will not cue any negative reactions in potential customers, for example, increased risk perceptions or disengagement because of the volume of information presented.

“If you start putting allergens in large print, that almost start sending warnings out and saying, there must be something wrong with this. Obviously, I'm sure you know yourself. I mean, anytime you look at a menu in a restaurant or whatever, yes, there's any allergens written on them, but they're always in small print.”

Table service business

“I just want information to be as clear as possible to the customer because they decide in a couple of seconds whether or not they want to eat with you. And if I just overload them with information, it might affect their decision.”

Market stall business

Beliefs about the incidence of FHS requirements within the population

The belief that people with FHS are a minority leads some businesses to prefer methods of communications perceived as less obtrusive on the service experience of people without an FHS

It was common for FBOs to suggest that people with FHS requirements form a minority of the population. When combined with beliefs about the effects of different communication methods on customer relationships and visual appeal, this belief led FBOs to prefer methods which were perceived as striking the right balance between protecting the health of people with FHS requirements (the minority) without unduly disrupting the service experience of those who do not (the majority).

For example, supporters and users of signposting approaches commonly argued that these enable people with FHS requirements to identify themselves, and are easily ignored by people

who do not. Similarly, opponents of asking each customer whether they have an FHS requirement argued that this would amount to asking the majority of customers an unnecessary and, from a customer relations perspective, potentially detrimental question.

Beliefs about the incidence of specific FHS requirements relative to others also play a role. For example, businesses varied in terms of whether they communicated when an allergen is present in a dish versus whether a particular dish was free from a specific allergen. The latter practice tended to be reserved for dishes and products aimed at people with FHS requirements that are believed to be more common, such as gluten allergies.

“The most common allergies we'll always highlight on the menus what's in those I mean, your nut allergies are very sort of prevalent these days. Your wheat allergies are prevalent, your gluten allergies are prevalent. The ones that are most common, we will highlight where we can on the food and hopefully people will pick up on that and come back to us.”

Table service business

Beliefs about what FHS customers should and will do regarding their food hypersensitivity and eating out

Beliefs about what customers should and will do influence how businesses justify their chosen approaches to allergen information provision

In terms of what people should do, there is a belief held by some FBOs that the customer bears primary responsibility to take care of their own health. While still acknowledging their own responsibilities to customer health, this belief led some to argue that it is first and foremost the responsibility of customers themselves to notify businesses about any FHS requirements. Businesses holding this belief supported allergen information provision approaches that aligned with this belief – for example, signposting approaches which remind the customer that they should initiate conversation.

In terms of what people will do, there is a belief that customers with an FHS requirement will identify themselves anyway, and that therefore they can be relied on to do so. This belief appeared to be based largely on personal experience and on the rationale that customers would not put themselves in harm's way.

Business size (both physical and in terms of staff number)

Businesses with more staff and a bigger premises behave differently from those with fewer staff and a small premises

The research sample included micro-businesses comprising a single person who took responsibility for all food service functions (for example, ordering, food preparation, taking orders, serving food), to businesses with ten or more staff taking responsibility for specific functions (for example, a chef vs. order-taker vs. food server).

Businesses with greater numbers of staff who performed specialised roles were more likely to use written documentation (such as a food matrix) and encourage communication between kitchen and front-of-house staff to ensure that the relevant information is accessible to the staff member or customer who needs it. This tendency was also influenced by the distance between the kitchen and the service area, as this determines how physically accessible kitchen staff are to customers.

Some business owners of single-employee businesses, by contrast, claimed to possess all the relevant knowledge in their head, and so saw less need for written allergen information. These business owners also acted as both chef and server, meaning that the customer had direct access to the person responsible for preparing the food.

Characteristics of the service environment

How busy and fast-paced a service environment is shapes what is practical for businesses to do when providing allergen information

FBOs who said their service environments could become busy and fast-paced reported concerns about the feasibility of asking each customer about their FHS requirements. Instead, these businesses reported and were observed using either signposting approaches or proactive written communication to inform customers about allergens. Some of these FBOs also kept written information to hand to give to customers who indicated they have an FHS requirement in case servers are too busy.

Characteristics of the food served

Businesses make decisions about how to provide allergen information based on the complexity and variability of the dishes they serve

The complexity of dishes, the frequency with which dishes on the menu change, and whether a business offers options to customise or request bespoke dishes all emerged as factors influencing the choice of behaviours. Such factors appear particularly influential over decisions about communicating allergen information in writing, for example via a menu or written sign.

These factors limit businesses physical opportunity to include allergen information on their menu. Dishes with lots of ingredients were considered as requiring more time and effort to identify and include relevant allergen information on menus. Businesses with menus that change regularly, or which make dishes to order, considered including allergen information on menus impractical, due to the sheer number of potential dishes which customers could order.

“Because everything's baked fresh daily, the difficulty with a menu is if we list all our flavours, people might expect for all 15 flavours to be out on one particular day. So with a menu, we have to be quite particular in what we're actually going to put on the menu. Have a look at that. It's just the nature of it. It's a bit like you just come up and pay for what you want and then we'll bring it over.”

Counter service business

Physical characteristics of media used to communicate information

Size and durability of physical media used to communicate written information influence whether and how a business uses them to provide allergen information

For example, businesses with small menus reported that it would be impractical for them to include allergen information on the menu. A business who used to use handwritten labels for its products also noted that such labels tended to degrade quickly, making them unsuitable for allergen information as well as being a lot of work for the business to replace.

Costs associated with different methods

High financial and time costs can discourage and prohibit a business from practicing certain behaviours

There was evidence of businesses using certain methods because they presented a lower financial and/or time cost option compared with alternatives. Businesses who signposted using a standalone written sign, for example, noted that this behaviour is cheap to implement, requires minimal effort and must only be done once.

There was also evidence of businesses wanting to use a new approach, such as switching to an online menu, but being unable to do so because switching to new systems is expensive and time-consuming.

“I'm rearranging the shop at the moment. I'm going to set up a point of, like a point of sale where they can get recipes, they can get all the allergens, they can just go onto a laptop, or I might do it as a pad where they can just bring up the product, go on to list all the ingredients. So, it's something we are planning to do. It's like everything else, it's money.”

Counter service business

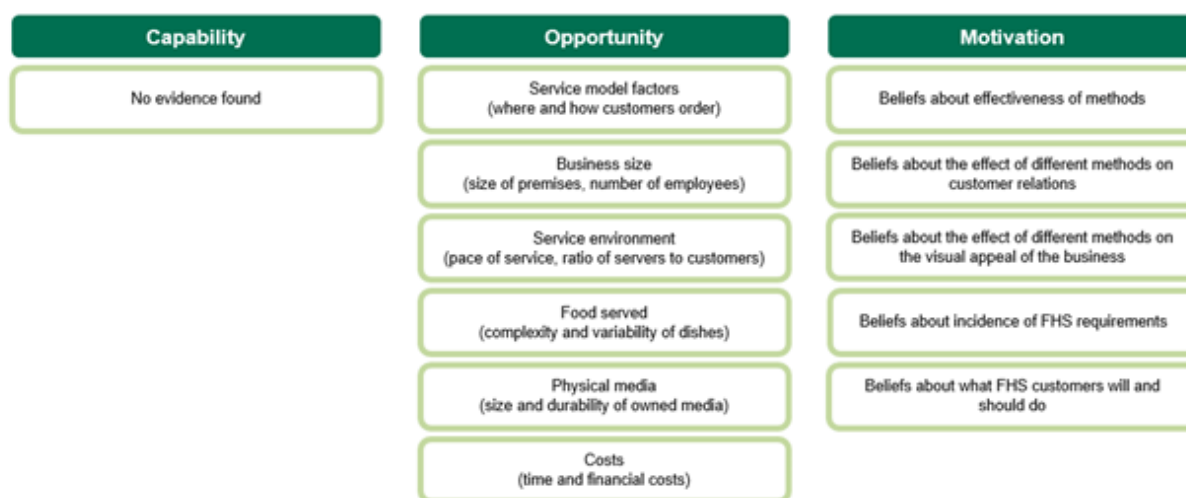
Conclusion

This research indicates that the methods used by SMEs for communicating allergen information are influenced primarily by:

- Characteristics of the physical and service environment, which determine which methods of providing allergen information are available to and practical within the context of the business (Opportunity factors)
- A range of beliefs, including beliefs about which methods of providing allergen information are most effective; how common FHS are; what will affect the business' bottom-line; and how FHS customers should and will behave (Motivation factors)

These are summarised in Figure 2.

Figure 2: COM-B factors influencing which methods of communication are used to provide allergen information and how they are implemented



Challenges faced by SMEs managing cross-contact risks

Cross-contact risk management practices

This research made clear that cross-contact risk management occurs across multiple stages, from ensuring staff complete formative education and training in food safety, all the way through from menu design to food service. In total, six stages at which cross-contact risk management occurs were identified during the analysis ([footnote 1](#)). These are summarised below and illustrated by Figure 2. Table 4 at the end of the section also summarises all the behaviours and approaches identified at each stage.

Figure 3: Cross-contact risk management stages



Stage 1: Formative education and training in food safety

All types of sampled FBOs reported taking steps to ensure that staff in the business were understood and knew how to manage cross-contact risks. These steps included requiring staff to complete food safety courses, requiring staff to be able to demonstrate relevant food safety qualifications, and providing training on the business' policies and processes for managing cross-contact risks. Some FBOs also reported reaching out to trade and regulatory bodies to seek guidance on policy and legal requirements and best practice in training staff on food safety.

Stage 2: Menu planning

Some sampled businesses said that they proactively communicate with event organisers and customers about FHS requirements in advance of designing a menu. This allowed them to customise the menu to ensure that it is safe and inclusive for all customers. This behaviour was limited to businesses who could ensure early access to customers' dietary requirements, for example, schools and event caterers.

Stage 3: Food preparation

Sampled FBOs varied in terms of where food was prepared: on-site, off-site, or a mix of the two. FBOs which prepared food on-site operated from a permanent location equipped with a kitchen. FBOs which prepared food off-site lacked the on-site food preparation facilities, and/or sold food that had to be fully prepared in advance (for example, market stalls selling baked goods). FBOs which did both either sold dishes which could or had to be partially prepared in advance (for example, slow-cooked meats) or sold a mix of pre-prepared and freshly made dishes (for example, baked goods and sandwiches). Many businesses which prepared food off-site did so from home using a domestic kitchen.

Behaviours and approaches to manage cross-contact risks during food preparation included:

- Regular handwashing
- Preparing allergen-free dishes in a separate area from other dishes and products
- Staggering the preparation of dishes so that allergen-free dishes and products are made first
- Disposing and replacing contaminated disposable materials (for example, baking paper) before preparation of allergen-free dishes and products
- Using separate utensils (for example, tongs, knives) for preparation of allergen-free dishes and products
- Using separate chopping boards for preparation of allergen free dishes and products
- Using separate cooking appliances (for example, fryers) for preparation of allergen-free dishes and products
- Cleaning down equipment & appliances pre/post preparation of different dishes and products
- Cleaning down surfaces pre/post preparation of different dishes and products
- Ordering allergen-free products from third parties, to avoid having to prepare in the kitchen

Stage 4: Food storage

Sampled FBOs varied in terms of whether they stored food on-site or off-site. Businesses vending from a fixed location and equipped with the necessary storage equipment (for example, fridges and freezers) stored food on-site. This included all permanent counter service, table service and takeaway businesses. Other businesses, notably market stalls and mobile catering vans, tended to store food at home and used a vehicle (for example, a car or refrigerated van) to transport goods to the service location. Businesses also varied in terms of whether they stored raw or pre-prepared dishes and products. This depended on the types of dishes and products included on the menu.

To manage cross-contact risks during food storage, FBOs reported:

- Storing allergen-free dishes and products in separate fridges/freezers
- Storing allergen-free dishes and products in separate containers
- Clearly labelling stored items with relevant allergen information

Stage 5: Food display

Some businesses which used a display area for advertising dishes and products said they purposively organised space to create distance between regular and allergen-free items. This was limited primarily to counter service and market stall businesses, as these were the service models which tended to use a display area.

Some businesses which prepared dishes and products in advance said they pre-pack allergen-free items to minimise cross-contact risks.

Stage 6: Food service

All types of sampled FBOs said they try to manage cross-contact risks during food service. Different businesses do this in different ways, depending on a mix of factors. For example:

- businesses selling pre-prepared products such as cakes reported using gloves and/or separate utensils to handle allergen-free products.
- businesses with separate kitchen and front-of-house areas reported different approaches to relaying customers' FHS requirements to kitchen staff. These included handwritten notes, printed tickets, and servers going into the kitchen to speak with kitchen staff.

It was also common for sampled businesses of all types to inform customers that it is not possible to guarantee zero cross-contact risk. Some FBOs also said they advise customers with severe allergies against purchase of all or some products.

Table 4: Behaviours and approaches involved in cross-contact risk management

Stage	Behaviours and approaches
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<p>Stage 1: Formative education and training in food safety</p>	<ul style="list-style-type: none"> • Taking/requiring staff to complete food safety training courses and qualifications (in-house or third party provided) • Seeking guidance/resources from trade/regulatory bodies
<p>Stage 2: Menu design</p>	<ul style="list-style-type: none"> • Requesting customer dietary requirements upfront, to inform the design of the menu
<p>Stage 3: Food preparation</p>	<ul style="list-style-type: none"> • Regular handwashing • Preparing allergen-free dishes in a separate area from other dishes and products • Staggering the preparation of dishes so that allergen-free dishes and products are made first • Disposing and replacing contaminated disposable materials (for example, baking paper) before preparation of allergen-free dishes and products • Using separate utensils (for example, tongs, knives) for preparation of allergen-free dishes and products • Using separate chopping boards for preparation of allergen free dishes and products • Using separate cooking appliances (for example, fryers) for preparation of allergen-free dishes and products • Cleaning down equipment & appliances pre/post preparation of different dishes and products • Cleaning down surfaces pre / post preparation of different dishes and products • Ordering allergen-free products from third parties, to avoid having to prepare in the kitchen
<p>Stage 4: Food storage</p>	<ul style="list-style-type: none"> • Storing allergen-free dishes and products in separate fridges/freezers • Storing allergen-free dishes and products in separate containers • Clearly labelling stored items with relevant allergen information

<p>Stage 5: Food display</p>	<ul style="list-style-type: none"> • Purposively organising space to create distance between FHS-suitable and unsuitable dishes and products • Pre-packing dishes and products
<p>Stage 6: Food service</p>	<ul style="list-style-type: none"> • Writing notes / printing tickets that inform kitchen staff about customer FHS requirements • Verbally relaying customer FHS requirements to kitchen staff • Advising customers against purchase (of all or some) products • Informing customers that it is not possible to guarantee zero cross-contact risk

Cross-contact management: barriers and enablers

The following sections discuss the behavioural factors which either made it difficult for FBOs to manage cross-contact risks (barriers) or which helped them do so (enablers). The factors are categorised using the COM-B behavioural model, which identifies three factors that need to be present for any behaviour to occur: capability, opportunity and motivation.

- **Capability** refers to whether a person has the knowledge, skills and abilities required to engage in a particular behaviour.
- **Opportunity** refers to the external factors which make the execution of a behaviour possible. These include opportunities provided by the environment, such as time, location and resource, and also opportunities as a result of social factors, such as cultural norms and social cues.
- **Motivation** refers to the internal processes which influence our decision making and behaviours. These include our values and beliefs, as well as automatic processes such as our desires, impulses and inhibitions.

Further detail on the COM-B model is provided in the Objectives and Methods: Analysis section in the introduction to this report.

Capability - barriers

Both trade body representatives and some businesses are concerned that SME FBO staff may not always know how to manage cross-contact risks effectively

Some trade bodies reported concerns about the standard and consistency of allergen risk management knowledge and skills across the industry. Moreover, while most businesses expressed confidence that they knew how to manage cross-contact risks, some admitted that they were not sure whether their approach to managing risk aligned with best practice.

Concerns about insecure supply chains and staff turnover indicate that some staff may be unable to always identify whether an allergen is present

Supply chain and staff turnover challenges are explored in greater detail in the sub-section on opportunity barriers below. Both were highlighted as potential causes of staff being unaware that a specific allergen is present in the business, which may in turn prevent them from taking the necessary steps to manage cross-contact.

Capability - enablers

Access to accredited training providers and the use of cues to remind businesses can help ensure businesses knowledge of best practice is up to date

Requiring staff to complete food safety training courses and qualifications is one way in which businesses try to make sure staff have sufficient knowledge to manage cross-contact risks. Several businesses also mentioned the role of prompts to remind them to update their knowledge and skills. These prompts included emails and text messages sent by third party training providers and suppliers.

Tenure in a business and the food service industry is also perceived as a key enabler of competency for managing cross-contact risks

Tenure within the food service industry and within a specific business was a driving factor for business' confidence in their capability to manage allergen risks and communicate allergen information to customers. This tenure means that business owners and staff have first-hand experience implementing relevant knowledge and skills.

"We're quite clear what the alternatives are that we sell. Our staff stay for a long time as well, so we're well educated on that side."

Takeaway business

Opportunity - barriers

Limited knowledge about how to manage cross-contact risks may be due to a lack of opportunities for SMEs to hire well-trained staff and access standardised, practical training

The research identified four factors contributing to businesses' limited knowledge and understanding about how to manage cross-contract risks. In terms of COM-B, all four factors reflect a lack of opportunities within the wider environment for businesses to either hire staff with the appropriate capabilities, or to access standardised and practical education and training opportunities. These included:

- **Lack of standardisation in training and advice for businesses about how to manage cross-contact risks**

Trade body representatives noted that there are a range of different courses in cross-contact risk management that can be undertaken, making it confusing at times for employers to understand what training is best for their staff. They also highlighted inconsistencies in the advice given to businesses by different sources of information, such as event venues and food safety inspectors. While not systematically examined in the analysis, there was variance in the qualifications, levels of accreditation required of staff, and sources of information for guidance about cross-contact risk management mentioned by businesses.

In addition to points around standardisation, during an ethnographic deep-dive, a business reported that while existing guidelines and training were clear on legal requirements and why allergen risk management is important, there is a gap in the provision of practical guidelines about how to implement that knowledge in the context of their specific business. Consequently, this

business described doing their best to apply the knowledge in a way that makes sense but lacked the belief and confidence that this was the 'right' way.

"There's no standard practice... We don't really know in all of Wales their basic level of training in terms of allergen food sensitivity and all this. And do we need to provide something more specialised? Do we, for example, use the FSA allergen courses?"

Trade Body Representative

"On the other side of the coin, they might be subject to lots of frequent inspections or spot checks, at least during events and festivals where they might get differing advice. This is okay here, but then they'll go to another event, and it's not okay there, because different shows will have a different interpretation of things. So it's a barrage for them."

Trade Body Representative

- **Staff turnover**

Hospitality businesses of all sizes experience high turnover of staff, which may lead to experienced staff exiting the food service industry, as well as to the recruitment of newer staff who are not as familiar with what allergens are present in a specific business. As a result, trade body representatives suggested that there is a risk of food service staff being less qualified or experienced when it comes to managing cross-contact risks.

Related to this challenge, one trade body representative also acknowledged the risks associated with use of agency staff. Such staff are likely to be less well-qualified, less knowledgeable about the food served by a business, and also less motivated to manage cross-contact risk effectively, for example, due to a lack of sense of vocation.

Limited space in kitchens and service areas makes it difficult to manage cross-contact risks

Limited space is one of the most prevalent challenges reported by SME FBO's when managing allergen cross-contact risks. This challenge was reported and observed both in the context of kitchens and food service areas. Being able to manage cross-contact risk in small (and often mobile) food preparation and storage areas is, for many, "nearly impossible". Moreover, maintaining separation between dishes and products at the point of service is challenging for businesses selling from a small stand or counter area.

"The problem is that a lot of them are working in very tight environments, so there's a real risk of cross contamination of ingredients within a small kitchen area."

Trade body representative

"You only have to look at the size of some of those trucks, those mobile units, to know that managing cross contamination is going to be a challenge in that environment."

Trade body representative

"[One challenge] would probably be our kitchen. Our pass is only 4ft by 2ft. If we have a busy day, we serve maybe 900 plates of food - starters, mains and desserts...I would love to say, okay, we have this area, this is our area where gluten free foods are handled. But I don't know if it's achievable, to be honest."

Counter service business

Insecure supply chains can make it difficult for some smaller businesses to plan for cross-contact risk management

Trade bodies felt that small businesses had a similar level of awareness of allergen cross-contact risks as larger businesses because "anyone with a business is going to be worried about

allergens and causing a problem for someone". However, when managing cross-contact risks, trade bodies felt an important challenge for SMEs is a diminished ability to plan. This was commonly attributed to characteristics of the supply chains used by SMEs.

For example, smaller businesses may be reliant on local cash and carries or other smaller suppliers to source ingredients as and when they need them. This means that certain ingredients are more likely to be unavailable at short notice, and therefore these businesses are forced to make substitutions more regularly. This can have a significant impact on a business's ability to plan out processes for separating and managing cross-contact risks when preparing non-prepacked food items.

"The problems they have tend to be related to where they buy ingredients and things. They go and buy stuff very often from local cash and carries and things. In other cases, very small businesses, they can't always get the same ingredients. So that can affect allergens quite significantly. If they suddenly have to change something around, they don't have the technical backup that a big company would have to understand allergens probably as well as the bigger companies do. And I think it's a real challenge for them."

Trade body representative

Opportunity - enablers

FBOs adapt their cross-contact risk management approaches to their physical environment

Businesses which struggle to manage cross-contact risks due to a lack of space reported the following compensating behaviours:

- Staggering the preparation of allergen-free vs. regular dishes and products
- Ordering allergen-free products from third parties, to avoid having to prepare in the kitchen
- Pre-packing dishes and products

To further manage risks to FHS customers, businesses also said that they try to be transparent about the limitations in their ability to manage cross-contact risks, for example by:

- Informing customers that it is not possible to guarantee zero cross-contact risk
- Advising customers against purchase (of all or some) products, depending on the severity of their FHS

Cross-contact risk management planning is enabled by close working relationships with suppliers

Both trade bodies and businesses highlighted the importance of the FBO-supplier relationship in securing businesses' ability to plan for cross-contact risk management. The research suggests that this relationship benefits from:

- suppliers clearly communicating any changes in deliveries that might affect a business' existing cross-contact management plans.
- businesses cultivating strong interpersonal relationships with suppliers, as a basis for communicating about allergens.
- businesses establishing routines as part of their supply chain management practices, for example by performing cross-checks of each delivery against existing allergen information documents (such as a food matrix).

Businesses who can access information about customers FHS requirements in advance are also better able to plan cross-contact risk management

Some businesses reported (sometimes) being able to request FHS information upfront, prior to design menu and/or ordering, prepping and serving food. This knowledge has clear benefits in terms of being able to plan for cross-contact risk management. Types of businesses who could do this included:

- Schools, which collect student FHS requirements and share with kitchen staff as standard
- Market stalls, mobile food vans and other businesses which cater for private events, such as weddings and parties

Conclusion

The barriers reported in this section can be split into two categories: direct barriers and indirect barriers. Direct barriers are factors that directly influence the ease or difficulty with which a business can manage cross-contact risks. Indirect barriers are factors which influence direct barriers. The direct barriers reported in this section are:

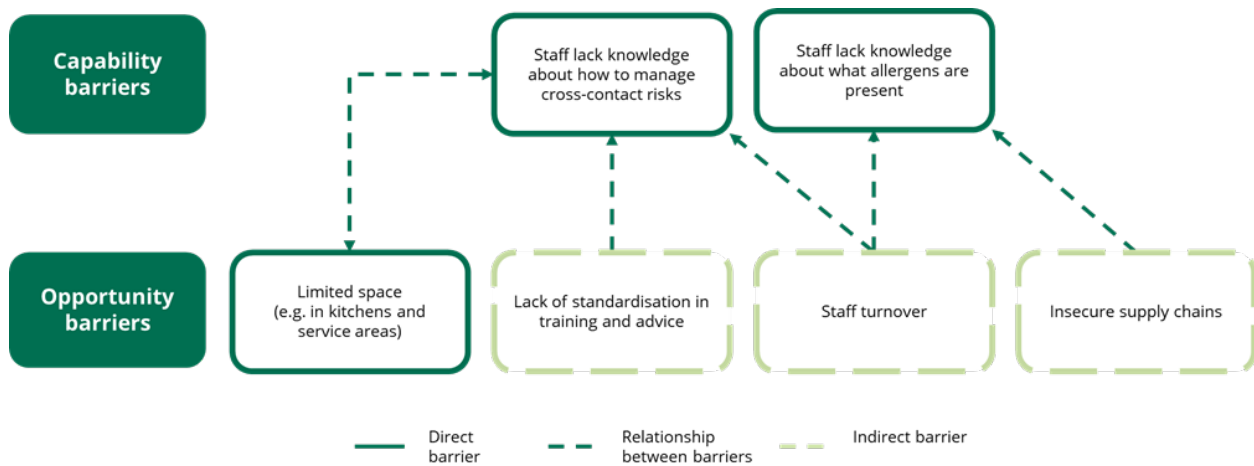
- Staff lacking knowledge about how to manage cross-contact risks – a capability barrier which can make it difficult for staff to manage cross-contact risks well, and which can also make it harder for them to manage those risks in small kitchens and service areas
- Staff lacking knowledge about what allergens are present in the business – a capability barrier which can make it difficult for staff to correct identify (and subsequently take steps to manage) cross-contact risks
- Limited space in kitchen and service areas – an opportunity barrier which may make it physically difficult to manage cross-contact risks, plus may increase the cognitive complexity of figuring out how to do, thereby influencing capability barriers

The indirect barriers are:

- Lack of standardisation in training and advice – an opportunity barrier which may lead staff to have inconsistent knowledge and beliefs about how to manage cross-contact risks
- Staff turnover – an opportunity barrier which may mean that businesses have difficulty hiring and retaining staff who know how manage cross-contact risks and who know the business, including what allergens are present, well
- Insecure supply chains – an opportunity barrier which can make it difficult for staff to know what allergens are present in the business, for example, because suppliers substitute items for different deliveries

Figure 4 provides a visual mapping of the barriers identified in this section. Mapping barriers in this way can help when thinking through interventions for improving cross-contact management. Interventions targeting direct barriers may be effective in helping businesses to overcome the immediate challenges they face. However, the impact of these interventions may be limited unless interventions are also developed that target the indirect barriers which contribute to direct barriers in the first place.

Figure 4: Mapping of COM-B barriers to effective cross-contact risk management



Based on this mapping, and informed by the enablers of cross-contact management identified during the study, this research suggests that:

Improving staff knowledge about how to manage cross-contact risks may be supported by interventions which:

- Improve SMEs access to accredited training providers
- Provide prompts reminding SMEs to update their knowledge
- Standardise the training and advice provided to SMEs
- Improve the ability of SMEs to employ and retain staff with a long tenure in food service

Improving staff knowledge about which allergens are present in the business may be supported by interventions which achieve the above outcomes, and also make it easier to manage insecure supply chains. The evidence from this research suggests that businesses who manage this insecurity effectively do so by:

- Cultivating strong relationships and regular communication with suppliers
- Establishing routines for checking new deliveries
- Benefiting from being able to access information about their customers in advance of designing a menu and ordering ingredients.

Finally, while it may be difficult for interventions to change the size of kitchen and service areas, SMEs can adapt how they store, prepare and serve food to minimise cross-contact risks within the context of their physical environment. Adaptations identified by this research which could be used to guide struggling FBOs include:

- preparing food in stages and cleaning surfaces and utensils between each stage
- ordering allergen-free products from third parties
- packing allergen-free products to ensure they do not come into contact with other products on display

Challenges faced by SMEs providing accurate allergen information to customers

Methods for ensuring accuracy of allergen information

A wide range of methods for ensuring accuracy of allergen informed were identified by this research. These methods can be classified along two dimensions:

- When (proactive vs. reactive): this dimension refers to whether the method is used prior to (proactive) or in response to (reactive) a customer indicating that they have an FHS requirement
- How (written or verbal): this dimension refers to the medium through which allergen information is communicated. Two types of communication were identified in the analysis: written and verbal

The methods employed by businesses to ensure the accuracy of the allergen information they provide are summarised below, and also represented in Table 5. All these methods were reported by FBOs during interviews and/or observed by researchers during ethnographic deep dives.

Proactive, written methods:

- Using written information/food matrices to inform staff about allergen risks
- Updating food matrices / allergen information booklets
- Checking new deliveries for allergen information
- Using online information to keep track of ingredients / allergens risks

Proactive, verbal methods:

- Talking with suppliers to identify allergen risks present in deliveries
- Having kitchen staff communicate to other staff which dishes/products present allergen risks

Reactive, written methods:

- Using a label / sticker on food item when it is given to customer to confirm to customer that dish / product has been made allergen free

Proactive, verbal methods:

- Verbally communicating customer FHS risks to kitchen staff (for example, to make them aware / get their guidance)
- Verbally confirming with customer that a dish / product has been made allergen-free

Table 5: Methods for ensuring the accuracy of allergen information

Type	Proactive	Reactive
Written	<ul style="list-style-type: none"> • Using written information/food matrices to inform staff about allergen risks • Updating food matrices/ allergen information booklets • Checking new deliveries for allergen information • Using online information to keep track of ingredients / allergens risks 	<ul style="list-style-type: none"> • Using a label / sticker on food item when it is given to customer to confirm to customer that dish / product has been made allergen free

Type	Proactive	Reactive
Verbal	<ul style="list-style-type: none"> Talking with suppliers to identify allergen risks present in deliveries Having kitchen staff communicate to other staff which dishes/products present allergen risks 	<ul style="list-style-type: none"> Verbally communicating customer FHS risks to kitchen staff (for example, to make them aware / get their guidance) Verbally confirming with customer that a dish / product has been made allergen-free

Challenges and enablers of providing accurate allergen information

The following sections discuss the behavioural factors which either made it difficult for FBOs to manage cross-contact risks (barriers) or which helped them do so (enablers). The factors are categorised using the COM-B behavioural model, which identifies three factors that need to be present for any behaviour to occur: capability, opportunity and motivation.

- **Capability** refers to whether a person has the knowledge, skills and abilities required to engage in a particular behaviour.
- **Opportunity** refers to the external factors which make the execution of a behaviour possible. These include opportunities provided by the environment, such as time, location and resource, and also opportunities as a result of social factors, such as cultural norms and social cues.
- **Motivation** refers to the internal processes which influence our decision making and behaviours. These include our values and beliefs, as well as automatic processes such as our desires, impulses and inhibitions.

Further detail on the COM-B model is provided in the Objectives and Methods: Analysis section in the introduction to this report.

Capability barriers - providing accurate allergen information

FBO staff may not always have sufficiently accurate knowledge of what allergens are present and how to communicate this to customers

Much like with managing allergen cross-contact risks, a key challenge for SMEs when communicating accurate allergen information to consumers is insufficient awareness and knowledge among staff.

“I think in 99% of cases or even higher than that cases, it won't be a case of people deliberately cutting corners, that sort of thing. I think it would just be a lack of awareness or a lack of knowledge about what they could do better.”

Trade body representative

In businesses with multiple employees, there may be a lack of consistency in the knowledge levels of different staff

Multiple trade bodies and FBOs indicated that knowledge about allergens is not consistent for all employees. Some staff – for example, head chefs and business owners – may know more about allergens present in the business than others – for example, servers and new hires.

A concern about the language proficiency of non-native workers in the food service staff was expressed

This concern was expressed by one trade body representative only. The comment was made in the context of the interviewee describing an upwards trend in the use of agency staff by food businesses. However, it should be noted that no FBOs which took part in the research reported using agency staff.

“There are still a lot of people working on the food service side of things, where they may be employed by agencies, and where their English language skills are quite poor. And I think there's a problem there. Sometimes an allergy sufferer might ask them something and they misunderstand, and then they give the wrong information or they don't know who to speak to in that organization to get further advice because they're there and it's an agency arrangement. I think that does seem to be something that comes up as a problem.”

Trade Body Representative

Capability enablers - providing accurate allergen information

Provision of accurate allergen information is enabled by providing staff with training, access to up-to-date, comprehensive written information, and encouraging regular lines of communication from kitchen to customer

Multiple businesses described providing staff with in-house training on the allergens present in the business and processes that should be followed if a customer indicates they have an FHS requirement. Trade body representative doubts about the quality and consistency of the training notwithstanding, this represents a key method for businesses to educate staff so that they have the knowledge and understanding necessary to communicate allergen information to customers accurately.

Businesses also reported and were observed providing staff with access to written allergen information, such as a food matrix, so that they could educate and remind themselves about relevant allergen information. Businesses did this in different ways, including:

- storing food matrices and other written information in places accessible to staff, such as below the service counter, providing opportunities for education 'on-demand'
- sticking food matrices and other written information onto walls, for example in kitchen areas and other staff-only areas. This has the added benefit of introducing visual cues for reminding staff about what allergens are present in each dish

FBOs who took steps to ensure this information is kept up-to-date reported two approaches to doing so. First, there was evidence of businesses making (or aspiring to make) updates part of a routine or formalised process – for example, by making it part of the process for receiving new deliveries. Second, some businesses reported making updates in response to communication from suppliers.

“We could probably do to make sure it's up to date more regularly, maybe by putting on the monthly [checklist] to recheck the allergen sheet, make sure and kind of incorporate it into a monthly task.”

Takeaway business

Finally, businesses described different ways of facilitating communication between the kitchen staff - as the people best placed to provide accurate allergen information - and the customer. These included:

- Kitchen staff leaving the kitchen to speak to customers directly

- Kitchen staff relaying relevant information to servers, who then pass the information to customers
- Kitchen staff using stickers and labels on freshly cooked dishes to confirm to FHS customers that it has been made allergen-free

Opportunity barriers - providing accurate allergen information

Capability barriers may be due to a lack of opportunities for SMEs to hire well-trained staff, as well as limited opportunities for communicating accurate information between employees

The research identified four factors contributing to businesses' limited knowledge and understanding about how to manage cross-contact risks. In terms of COM-B, all four factors reflect a lack of opportunities within the wider environment for businesses to either hire staff with the appropriate capabilities, or to access standardised and practical education and training opportunities.

The research highlighted the following drivers of capability barriers:

- **Insecure supply chains**

The aforementioned issue of insecure supply chains (see Section: Cross-contact management: barriers and enablers) can make it difficult for businesses to know which allergens are present in the products used to make the food they serve.

"I think in terms of the sort of supply chain, there's always been an element of sort of substitutions or changes in the supply chain, but I would say at the moment it's the most volatile, it ever has been, which obviously creates more challenges for the operator as well. So certainly that's actually increased in terms of a factor to consider."

- **Staff turnover**

When there is high turnover of staff it is more challenging to ensure that everyone has the correct knowledge of the processes for communicating allergen information to customers, as these often vary from business to business. This challenge is higher for businesses relying on agency or temporary staff, due to the transient nature of their engagement with the business.

"I think one of the issues you've got there is the possibility of changing staff. The continuity of staff."

Trade body representative

- **Insufficient time to communicate allergen information evenly to all staff**

For businesses in which some staff have more knowledge about allergen information than others, competing demands on the time and attention of more knowledgeable staff members may limit their opportunity to educate others. This view was reported explicitly by one trade body representative. It also aligns with evidence reported by FBOs and trade bodies more generally regarding the time constraints faced by SME FBOs, for example due to busy service environments.

"I think the knowledge piece is a big challenge and not even just the business owner or manager getting the information, but then how you share that information with the other people within the organization, albeit small. But if you're trying to be this person who's juggling a lot, I think it's difficult to find the time, maybe to be able to share that information and treat everybody, to hear the standard and the knowledge."

Trade body representative

- **Missing, out-of-date or incomplete written information about allergens present in the business and policies for managing cross-contact risks**

Interviews with trade body representatives and businesses generated multiple examples of written allergen information that was either missing from the business or otherwise unfit-for-purpose. Examples included:

- Several businesses that reported that they do not have a formal written policy in place for to customers.
- A trade body representative with first-hand experience inspecting food matrices and other allergen information kept by SMEs who reported having seen numerous cases of documents that were unfit-for-purpose. For example, they described one business which had created a food matrix using Microsoft Excel. When printed, several columns of the matrix had been left out, rendering it incomplete.
- During an ethnographic observation, it was observed that a label used to communicate the allergens in a product that included a Snickers bar did not mention peanuts. This was despite the business owner's assurances that the labels were checked and updated regularly.

These weaknesses increase the likelihood that staff in the business will lack the requisite knowledge about what allergens are present, how cross-contact risks are managed, and will therefore be unable to communicate allergen information to customers accurately. They also increase the reliance of less knowledgeable staff on the expertise of more knowledgeable staff, however, as the previous finding indicated, these staff may not always be available. It also makes it impossible for customers to access this information themselves.

"Sometimes you might see these charts, these matrixes. Sometimes it's an excel spreadsheet that's been printed out. And it's not unusual where you'll go in, there should be 14 allergens across the columns, and they'll have printed it out, and they'll have missed off two of the columns, or they've got it on, like, three or four pages, and the headers are missing on the third and the fourth page."

Trade body representative

Creating and updating written allergen information can take a long time, leading these tasks to be side-lined in favour of more urgent priorities

Time constraints were a commonly cited reason for businesses who said they had not yet developed or struggled to update their written allergen information. For example, one business which does not have a written policy attributed this to the pressures of running the business, which meant that they had not had the time or capacity to create their policy yet, but that it was on their to-do list.

"I have it on my plan at the minute. I'm sort of been swamped lately, but it is on my list."

Table service business

The size and durability of written media mean that written allergen information may be(come) incomplete

As has already been mentioned in the previous section on allergen information provision behaviours (see Section: Factors influencing how information is communicated), businesses vary in terms of the size and durability of physical media (such as menus) available to them for communicating allergen information.

These factors do not just affect whether a particular medium is used to communicate allergen information, but also the accuracy of any information provided. Allergen information included on degradable labels and signs may become illegible or incomplete. Similarly, because of the size of

the media, some businesses reported only including partial allergen information (based, for example, on beliefs about the prevalence of different FHS requirements) on their menus and signs.

Opportunity enablers - providing accurate allergen information

Technology may reduce the time and effort associated with ensuring that written allergen information remains accurate

Technological solutions employed by businesses to help maintain the accuracy of allergen information included online menus and software for printing labels. While some businesses have these solutions 'in-house', others go to suppliers' websites and platforms to download the relevant allergen information. While effective in reducing the time and financial costs associated with keeping allergen information up-to-date, some technological solutions can carry high upfront costs.

"I'm rearranging the shop at the moment. I'm going to set up a point of, like a point of sale where they can get recipes, they can get all the allergens, they can just go onto a laptop, or I might do it as a pad where they can just bring up the product, go on to list all the ingredients. So, it's something we are planning to do. It's like everything else, it's money."

Counter service business

"We use a software package that helps us design and print those little labels, so it has the capacity to fit on as much information as you need."

Counter service business

Keeping customer-friendly written information can reduce the need for staff to speak to them about allergens during busy periods

Having written information to hand means that an FHS customer can be provided with the relevant information while leaving a server free to engage with other customers.

"[Having written information is useful] because you've always got it to hand and then if someone requests it, it's there for them. And then you're not interrupting the business, they're not holding up the queue. They can just stand to one side, have a read through it. If they've got any questions, they can just ask me direct. And then we don't mind letting them back in the queue."

Market stall business

However, FBOs took different perspectives on the customer-friendliness of their written information on allergens. Some felt that the documents they had were not customer-friendly, and so were reluctant to show them to customers. Others, however, spoke highly of the accessibility of their written information and food matrices, and were confident in using them with customers. Some of those who did so also described receiving tips (for example, from food safety inspectors) or coming up with their own solutions to improve the accessibility of the information (for example, by using colour coding to make it easier to identify specific allergens).

"If any other staff need to take anything out and show anyone, or if someone asks them a question, they can just go to the folder, have a look down the side. It's all organized with starters, mains, etc, so it's easy for them to kind of get to yeah. And then they can look across. They find their dish, they look across and they see which boxes, what included."

Table service business

"I talk them through our matrix. It's quite colourful, because personally I am very visual, so the colours were for me, to make it easy for me to point out which is which."

Market stall business

Conclusion

The barriers reported in this section can be split into two categories: direct barriers and indirect barriers. Direct barriers are factors that directly influence the ease or difficulty with which a business can manage cross-contact risks. Indirect barriers are factors which influence direct barriers. The direct barriers reported in this section are:

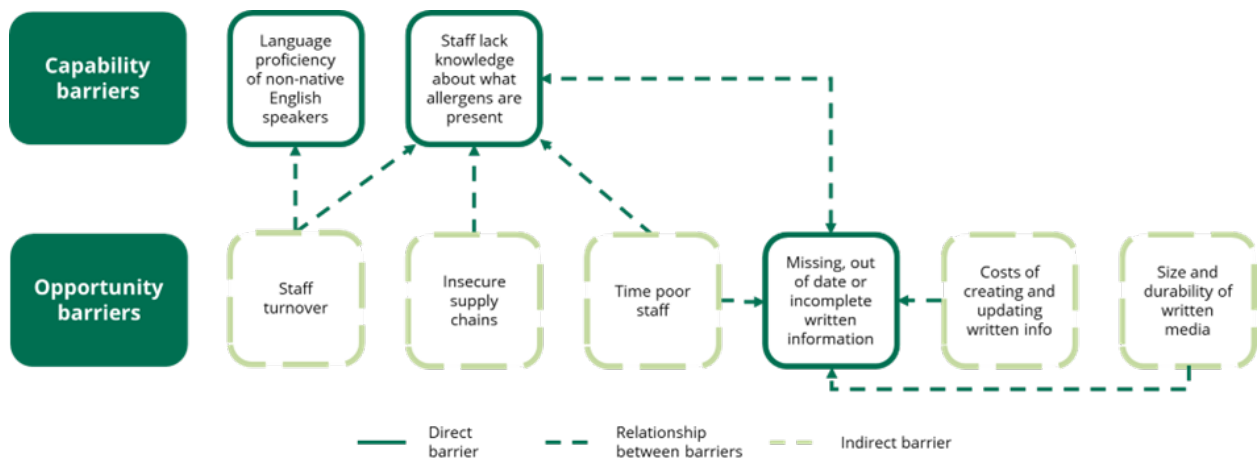
- Staff lacking language proficiency – a capability barrier which can make it difficult for staff to verbally communicate allergen information
- Staff lacking knowledge about what allergens are present – a capability barrier which can make it difficult for staff to accurately communicate which allergens are present and not present
- Missing, out of date or incomplete written information about allergens and allergen policies – an opportunity barrier which can make it difficult for customers to access accurate allergen information themselves, and which can also mean that staff cannot access the information themselves, thereby contributing to their lack of knowledge about what allergens are present

The indirect barriers are:

- Staff turnover – an opportunity barrier which may increase reliance on staff with limited language skills as well staff who lack knowledge about what allergens are present, for example, because they are new to the business
- Insecure supply chains – an opportunity barrier which can make it difficult for staff to know what allergens are present in the business, for example, because suppliers substitute items for different deliveries
- Time poor staff – an opportunity barrier which may mean that staff who possess accurate knowledge about allergens may lack the time to share that information with all staff (contributing to lack of staff knowledge) or to create and update accurate written information
- Costs of creating and updating written information – an opportunity barrier which may mean a business cannot afford to maintain accurate written allergen information
- Size and durability of written media – an opportunity barrier which may lead to written allergen information becoming worn and illegible

Figure 5 provides a visual mapping of the barriers identified in this section. Mapping barriers in this way can help when thinking through interventions for improving cross-contact management. Interventions targeting direct barriers may be effective in helping businesses to overcome the immediate challenges they face. However, the impact of these interventions may be limited unless interventions are also developed that target the indirect barriers which contribute to direct barriers in the first place.

Figure 5: Mapping of COM-B barriers to ensuring the accuracy of allergen information



Based on this mapping and informed by the enablers of ensuring allergen information accuracy identified during the study, this research suggests several opportunities improve the accuracy of allergen information provided by FBOs to their customers. Potential areas for intervention could include:

- Working with SME FBOs to establish clear policies and processes that enable staff who possess accurate allergen information (for example, head chefs) to communicate their knowledge to other staff and customers
- Working with suppliers to ensure that SME FBOs are able to access clear and concise allergen information for the items they are purchasing
- Reducing the time and financial costs associated with creating and updating written allergen information, for example by enabling access to technology that supports these activities

Challenges and benefits of different options for providing allergen information

This research tested six potential options for standardising how small- and micro-food businesses selling non-prepacked food could communicate allergen information to customers. The options were as follows:

1. Food businesses to provide a full, written list of ingredients for each dish on the menu
2. Food businesses to provide a full, written list of ingredients for each dish in a separate booklet
3. Food businesses to indicate the presence of any of the 14 regulated allergens in each dish on the menu
4. Food businesses to provide a written notice on a menu or next to the information consumers are using to select their food asking people with allergies or intolerances or coeliac disease to notify staff before ordering food
5. Food businesses to verbally ask all customers whether they have any food allergies or intolerances or coeliac disease
6. Food businesses to verbally confirm to the customer when the food is being served that a dish that has been requested to be free of a particular allergen has been made in such a way as to be free of that ingredient.??

The sub-sections below draw out key insights based on the responses of both FBO and trade body interviews to these options. It is important to note that, during the interviews, the first four options were prioritised, with options 5 and 6 covered only if there was sufficient time during the interview. As a result:

- Option 5 was only tested with 14 out of 40 businesses, although it was tested with all 6 trade body representatives
- Option 6 was only tested with 7 out of 40 businesses and 4 out of 6 trade body representatives

Option 1: Food businesses to provide a full, written list of ingredients for each dish on a menu

Including this information on a menu was one of the least popular options, because of its perceived impracticality, costs and inequity towards smaller businesses

This option was more commonly perceived as impractical rather than practical, due to carrying a cost for businesses, and for disadvantaging certain types of businesses over others. Overall, this specific option was one of the least popular for both businesses and trade bodies.

Including this information on a menu was perceived as impractical for the following reasons:

- not enough space on menu
- the information is not relevant for all customers
- the option makes it difficult to accommodate ingredient substitutions
- the option makes it difficult to accommodate menu changes
- putting all the information on a menu involves a high upfront cost in terms of ensuring all the information is included and correct
- the option makes it difficult to accommodate customisable dishes, for example, sandwiches that are made to order

Some trade bodies and businesses disagreed and felt that this option could be practical. However, this was limited to businesses who either:

- were already doing this as part of their standard practice
- had a menu and only offered dishes with a small number of ingredients
- had an online menu which could be customised with this information without becoming inaccessible

Including this information on a menu was widely seen as carrying both an upfront cost to the business - in terms of collating all of the information, designing menus that capture all of it, and printing – and an ongoing cost of updating the menu as ingredients and dishes change. However, there was little consensus over how large these costs would be, with some businesses viewing them as relatively small, and others high.

Finally, several interviewees felt that this option could unfairly disadvantage certain types of SME businesses. Businesses at risk of disadvantage included:

- SMEs which do not use a menu or who only have a small menu, who for example would have to invest in creating new/bigger menus.
- SMEs who are protective of their recipes, for example, businesses who market themselves based on their 'secret sauce' – who would effectively be required to disclose their recipes to competitors.
- SMEs who specialise in bespoke orders, for whom a single static menu is impractical and misaligned with current practices.

Opinions were mixed about whether this option would be effective in reducing allergen risks to customers

Arguments in support of the effectiveness of this option included that it would reduce risks to customers with FHS requirements who are otherwise embarrassed about identifying themselves

and remove risks of miscommunication between businesses and customers.

However, some interviewees also voiced concerns that this option could result in information overload, inadvertently increasing the risk of customers incorrectly processing the information provided. There were also concerns that, to be truly accurate, this option would require suppliers to be 100% accurate in the information they provide to businesses, which some felt could not always be relied upon.

Option 2: Food businesses to provide a full, written list of ingredients for each dish in a separate booklet

Including this information in a separate document was seen as a more practical and acceptable alternative to option 1, but there were still concerns over its associated costs and effectiveness in reducing allergen risks to consumers

This was seen as more practical because:

- Often businesses had lists of ingredients in similar documents already
- It would not affect their menu or board
- It would be easy to have a digital version of this document
- Businesses that rarely change dishes or ingredients would not encounter intensive admin to maintain

For certain businesses similar issues remained because this option could not be practically worked into their service delivery model. For example:

- This option still did not accommodate dishes that are customisable
- This option was still impractical for businesses where ingredients change or are substituted frequently
- This option was still impractical for businesses where menus change frequently

Whilst option 2 was not seen to be as costly as option 1, it was perceived to be administratively intensive for most businesses to maintain and keep up to date. This would result in costs in the form of staff time required to carry out this work. The amount of time staff would need to spend depended on the size of the business, the size of their menu, and their service delivery model. Related to this was the concern that smaller businesses have smaller profit margins, and therefore would be less able to absorb the increased labour cost.

Despite being more practical for most, the perceived effectiveness of reducing risk for the consumer of the intervention was still mixed at best. Businesses were torn over whether this would be a useful resource that could better inform the customer, or whether its effectiveness would be limited because:

- Staff are still reliant on customers alerting them to an allergy.
- It requires customers to understand allergies and cross-contact risks.
- It relies on staff to carry out due diligence.
- Navigating these documents can be time consuming and cumbersome and is likely to discourage consumers from using them.

Option 3: Food businesses to indicate on the menu the presence of any of the 14 regulated allergens in each dish

Option 3 provoked mixed reactions amongst interviewees. Some businesses felt this was a practical and acceptable system that was worthwhile implementing. Others felt this system was ineffective, impractical and would have negative unintended consequences.

Again, this often depended on the service delivery model, suggesting it would not be equitable for all businesses.

Some interviewees said that implementing option 3 was practically possible as it would require little time and effort. This was particularly relevant if they were able to indicate the presence of allergens using symbols. The reasons for this were as follows:

- It was similar to what they do already
- It would take up little space on a menu or board
- It would not increase the admin tasks staff have to carry out as they would only do it once for each dish

Conversely, other businesses argued this would be impractical, presenting almost diametrically opposing views to other interviewees. These were that:

- It would make boards hard to read
- It would take up too much space on menus
- Staff would spend too much time explaining symbols
- This option would not accommodate dishes that are customisable

Similarly, participants were split over whether this would result in costs added to the business. Some said that costs would be minimal and imagined buying cheap stickers to add to their boards with the relevant allergens written onto them, whereas others envisioned scenarios where they would need to buy expensive specialised printers. Like other options, these costs were seen to be more easily absorbed by larger businesses.

A key concern with option 3 was the potential for negative unintended consequences that would undermine its effectiveness, and create a net-negative impact, making certain consumers less safe. Whilst many felt that this could provide some benefits to consumers in that the visual cues would be a useful reminder of the presence of allergens, there were serious concerns over the potential for this information to be misinterpreted, for example due to misunderstandings about what a specific symbol means. This was seen to be particularly problematic for children, and those with visual impairment.

Other concerns included:

- Symbols lacking meaning for most people
- Too many symbols would be overwhelming
- Will stop customers declaring their allergies
- Will give consumers false sense of security

These unintended consequences were seen to undermine any benefits option 3 may have to such an extent that it would be a net-negative impact and would disproportionately affect those with accessibility needs.

Option 4: Food businesses to provide a written notice on a menu or next to the information customers are using to select their food asking customers with FHS requirements to identify themselves to staff

Among the most popular options for both businesses and trade bodies

This option attracted strong but not unanimous support from both businesses and trade bodies. Drivers of this support included:

- Perceived practicality, since it aligns closest with a behaviour that most businesses already do, and there was little evidence to suggest that businesses saw moving the location of the

- sign to make it more visible as significantly different from current requirements
- Perceived effectiveness as a reminder to customers that they have responsibility for their own health and as a trigger to opening dialogue with staff.
- Very low costs to implement
- Perceived equity, as it is an option that most if not all businesses should be able to implement fairly easily
- Also seen as unobtrusive both in terms of the aesthetics of the business and on the experience of customers who do not have an FHS.

Detractors of this option argue that customers cannot be relied upon to notice or follow the request of the sign, and so other options should be used (either instead or in combination) to assure that customers are made aware of the risks without them having to speak up. There was also evidence of concern that this approach relies on staff then being able to provide accurate information themselves in response.

Option 5: Food businesses to verbally ask all customers whether they have any FHS requirements

While generally perceived as effective, there were concerns about the practicality of this option, as well as its impact on the service experience for customers who do not have an FHS requirement

This option was more often perceived as an effective than an ineffective option for reducing risks to customers. The reasons given for why this option could be effective were that the option:

- Could help remove stigma and embarrassment around talking about FHS requirements (normalises conversations about FHS)
- Could reduce risk of miscommunication
- Encourages/reminds customer to identify any requirements they may have
- Adds a layer of protection to the business
- Ensures an opportunity for businesses to communicate cross-contact risks

The only counter-arguments given for why this option could be ineffective were that it relies on staff remembering to ask, and therefore is prone to human error. Additionally, some businesses suggested that, while not ineffective, requiring businesses to do this would be no tangible difference to the status quo, since in their view customers with FHS requirements already identify themselves without being asked.

However, there were concerns that, even if the option was effective, it could be impractical for businesses to implement in fast-paced service settings, and the accompanying risk of slowing down service and increasing queue lengths. These perceived challenges led some businesses to see this option as better suited (and therefore potentially advantaging) table service models (which do not require customers to queue) and other businesses operating in slower environments.

Another key concern associated with this option was its impact on the customer service experience. Businesses who voiced this concern highlighted building customer relationships as a core component of their business model and felt that this option could make staff-customer interactions feel mechanical and transactional. While some recognised that this option could help build trust with customers with an FHS requirement, others felt that such customers were a minority, resulting in a net-negative effect.

Option 6: Food businesses to verbally confirm to the customer when the food is being served that a dish has been made without a particular allergen

Responses indicate this option is perceived as practical and effective. This option was also tested with only a minority of participants.

This option was perceived as practical because it aligned with what some businesses do already, and would not take much time or effort for others to begin implementing. A trade body, however, argued that this option would work better in some types of businesses than others, and may therefore not be equally practical for all.

“I'm not sure how effective that would be. I just think practicalities of that are probably quite complicated. Businesses differ quite a lot in terms of the way they operate. Sometimes, if they're making to order, they might be making for the customer in front of them, or they might be making them behind the scenes, have people behind the scenes doing it. So it varies enormously from business to business.”

Trade Body Representative

The option was also more commonly seen as effective than ineffective. The main argument in support of its effectiveness was that it would serve as a final check against customers with FHS requirements being given the wrong dish by mistake. Businesses did, however, point out that while this option could provide additional reassurance to customers, it still relied on businesses preparing allergen-free dishes in a safe way. Moreover, as the quote above illustrates, there were concerns again that it might be more effective in some businesses over others.

“I think it could make it a bit safer in that respect because that's where the last sort of risk is, is the food coming off the kitchen window.”

FBO

1. Ethnographic deep dives focussed on the communication of allergen information at the point of food service. This means that data on the behaviours and approaches used to manage cross-contact risks at the other five stages was mostly reported rather than observed. However, observations and pre-task photographs of businesses did provide data on the layout and items (for example, chopping boards) present in a business.

Considerations - SME allergen provision in the non-prepacked sector

The research sought to understand how SMEs serving non-prepacked food currently provide allergen information to customers (including any written or digital materials) and the reasons for this approach. The findings of this aspect of the study suggest several considerations for policymakers considering how allergy information can be provided by FBOs. These include:

1. SMEs currently communicate allergen information in different ways.

2. SMEs justify their approaches to providing allergen information using an array of possibly misplaced, and sometimes contrasting, beliefs. Ensuring that businesses beliefs related to allergen information provision are evidence-based may help ensure that businesses do not practice behaviours based on inaccurate assumptions.

3. SMEs choice and expression of allergen information provision behaviours is shaped by factors outside of their immediate control or which are intrinsic to their business. For example, the research found evidence that service model, business size, service environment and the types of food served by a business can all shape how allergen information is communicated. This suggests that it is unlikely a one-size-fits-all approach to allergen information provision is possible, as it ignores the inherent diversity of food businesses in the sector.

The research also set out to identify challenges that SMEs face providing accurate allergen information to customers, as well as challenges around managing allergen cross-contact. The findings suggest that taking a systems thinking approach may be useful when considering how FBOs can manage cross-contact risks and communicate allergen information. The following points are around the system that food businesses operate in and should be taken into consideration:

4. Recent shocks may have made it difficult for SMEs to manage cross-contact risks and provide accurate allergen information to customers. These shocks may have impacted the capabilities of businesses to perform these functions by contributing experienced, tenured professionals leaving the food service industry, and by deepening supply chain insecurities. Efforts to support the sector need to be sensitive to the continuing influence of global and domestic events on the behaviours of SMEs.

5. There is a perception that the use of agency staff is increasing within the sector. This raised concerns among one trade body representative that these staff may be less capable of managing cross-contact risks and providing accurate allergen information. This is due to concerns about the extent to which these staff may be trained and motivated to ensure the safety of FHS customers.

6. There are concerns about the degree of standardisation in the education provided to and by businesses to ensure their staff can manage cross-contact risks and provide accurate allergen information. Gaining more clarity on what education is provided, by and to whom, could provide an important step towards understanding whether more standardisation is required.

7. Kitchen and service area space is an unavoidable factor defining what is feasible for SMEs to do when managing cross-contact risks. Policies in this area need to remain cognisant of this fact, to avoid requiring businesses to follow guidance that is inherently impractical for them to put into practice.

8. Suppliers play a fundamental role in enabling SMEs to manage cross-contact risks and provide accurate allergen information to customers. Engaging the wider supply chain may therefore help find ways to make it easier for SMEs to perform these roles effectively.

9. Technological solutions may reduce barriers to SMEs providing accurate allergen information. Investing in new innovations and finding ways to increase SMEs awareness of and access to such solutions may help improve the provision of allergen information for the sector as a whole.

Finally, this research examined the challenges and benefits of a range of different options for providing allergen information to consumers. Feedback from businesses and trade body

representatives support the following considerations for policymakers:

10. There is currently no clear winner in terms of the options provided. No option drew unanimous support from all businesses and trade bodies, and all received at least some negative feedback in terms of their acceptability, practicality, effectiveness, affordability, potential for unintended consequences, and equity.

11. There was somewhat stronger consensus around the unacceptability of including a full, written list of ingredients on menus. This option was negatively received by most businesses except those serving a small number of dishes with limited ingredients. It was generally considered impractical, as well as potentially ineffective by some. It may also disadvantage certain types of businesses, such as SMEs who are protective of their recipes.

Appendix A - SME allergen provision in the non-prepacked sector

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