



University of
Nottingham

UK | CHINA | MALAYSIA

Understanding ‘More than Food’ meal services to co-develop supply ecosystem innovations

Research England Policy Support Fund

© University of Nottingham 2024. All rights reserved.
Published March 2024





Report prepared by:

- Sally Hibbert, Nottingham University Business School, University of Nottingham, UK
- Marsha Smith, Centre for Business & Society, Coventry University, UK (formerly Food Systems Institute, University of Nottingham).
- Moira Taylor, School of Life Sciences, University of Nottingham, UK
- Bryn Smith, Nottingham University Business School, University of Nottingham, UK

Acknowledgements

We would like to thank members of the Project Management Group for their guidance and contributions throughout this project: Kathy Holmes and John Hughes, Nottinghamshire County Council; Lee Kimberley, Nottingham City Council; Katrina Campbell-Coupland, Metropolitan Housing Association; Helen Webster and Paul Mukherjee, Learning Disabilities Services; Nottinghamshire Healthcare; Cherry Underwood, The Renewal Trust, Nottingham; Pierce O'Connor and Camille McCawley, FareShare Midlands.

We add our sincere thanks to the individuals, groups and organisations that have shared their invaluable experience and expertise during the stakeholder event and interviews to co-develop understanding of challenges of 'More than Food' meal services and opportunities for innovation. Organisations represented in the project include (but are not limited to): Rhubarb Farm, Nottingham Good Food Partnership, Renewal Trust, Sycamore Centre, the Noor Project, Himmah, Secret Kitchen, SFiCE, Nottinghamshire Healthcare, Nottinghamshire County Council, Ashfield District Council, Newark and Sherwood District Council.

This research was funded by the Research England Policy Support Fund. Report published March 2024.

If you have any inquiries about this research and its findings, please contact sally.hibbert@nottingham.ac.uk



Executive summary

There is growing international, national and local concern about health inequalities associated with poor diets (WHO, 2023). In areas such as Nottingham City and districts in Nottinghamshire County where there are acute levels of food poverty, enabling access to sufficient food and appropriate nutrition is a particularly pressing issue. Various local initiatives are being pursued to improve opportunities to eat well and to leverage the broader economic, social and environmental roles of food to develop healthy and sustainable places. This project focuses on 'More than Food' (MtF) meal services, which facilitate food and nutritional access in combination with social benefits, typically at a low cost and prioritising the needs of people experiencing vulnerability. These services have been shown to positively impact food insecurity, social isolation and health and have been incorporated into initiatives such as the [Nottinghamshire Food Charter](#) and Nottingham City's strategy [Eating and Moving for Good Health](#).

MtF meal services manage a broad and complex set of meal-related activities and ways in which they innovate independently and in cooperation with supplier ecosystems affects service effectiveness, capacity and resilience and their social, environmental and economic impacts. To strengthen their role and contributions within local systems, there is a need for policy, action and knowledge building to facilitate exploration, experimentation and engagement to enable innovation. The aim of this exploratory project was to connect stakeholders and co-develop understanding of different types of MtF meal services and to explore opportunities for innovation within individual organisations and through collaboration.

A multi-stakeholder project management group was formed in April 2023 and a stakeholder event and in-depth interviews took place between June and September 2023. Participants included representatives from local authorities, public, voluntary, community and private sector organisations, national and local food networks, and service participants. The findings, based on desk research and co-learning throughout the project, outline differences between MtF meal services. Discussion of strengths, challenges and risks for each type of service highlights areas of focus for new developments. Secondly, illustrative examples reveal ways in which MtF meal services and actors in local supplier ecosystems have innovated. These examples contrast internal, partnership and network-based innovations and illuminate the types of goals that they serve. This co-developed insight highlights the need for detailed evaluation of the strengths and gaps in local capacity relative to need, priority areas for and alternative approaches to innovation at community and area levels. The report concludes by considering how to support innovation in MtF meal services and, in particular, to progress collaborative approaches and capitalise of their transformative potential in local food systems. A series of recommendations focus upon the creation, amalgamation and use of local data and insight, mechanisms for integration dialogue and collaboration and the development of engaged, whole system policy approaches.



Contents

Acknowledgements	2
Executive summary	3
Glossary	5
Introduction	6
Background	7
Project objectives	9
Project context and approach	10
Findings	12
Types of More the Food meal services	
• Voluntary and community sector initiatives	
• School holiday clubs	
• Meals at home	
• Adult day service meals	
Opportunities for Innovation in More than Food meal services and supplier ecosystems	
Looking forward	27
Recommendations	30
Conclusions	31
References	34
List of Tables and Figures	
Figure 1: More than Food meal service and supply ecosystem innovations and local system developments	9
Table 1: More than Food meal services' purpose, meal model and capacity	12
Table 2: Illustrative examples of innovations with an internal, partnership and network-based locus	21



Glossary

Terminology and abbreviations

Anchor organisations: large organisations that are ‘rooted in place and have significant assets and resources which can be used to influence the health and wellbeing of their local community. By strategically and intentionally managing their resources and operations, anchor institutions can help address local social, economic and environmental priorities in order to reduce health inequalities’ (NHS England)

Appropriate diet/nutrition: these terms are used, rather than alternatives such as ‘healthy diet’ to acknowledge different nutritional needs across populations or life stage and to cater for therapeutic dietary requirements.

Food aid charities: non-profit organisations that gather and redistribute food sourced from national and/or local growers, producers and supply chains.

Holiday activities and food programme (HAF)

‘More than Food’ meal services (MtF meal services): meal services that facilitate food and nutritional access in combination with social benefits, typically at a low cost and prioritising the needs of people experiencing vulnerability.

Nottinghamshire: the county name is used throughout the report to refer to the areas covered by the councils responsible for Nottingham City and districts in Nottinghamshire County.

Service participants: refers to people who consume meals provided by More than Food meal services. However, this term recognises that their role is not limited to service user, acknowledging that they also contribute assets such as knowledge and social skills to the service and may play additional roles such as volunteer or supplier.

Surplus food: food that for various reasons is not traded through mainstream commercial markets. Various actors in the food system including specialist surplus redistributors, farmers, retailers, processors, and consumers exchange or redistribute surplus food directly and indirectly.

Voluntary and community sector (VCS): organisations that focus on social impact and change, which are not public and private sector organisations. There is no single definition, as the sector comprises formal organizations and informal community-based structures, encompassing heterogeneous entities that vary across multiple characteristics including size, objectives, voluntarism, and independence. An alternative label is the ‘voluntary, community and social enterprise sector’ (Salamon and Sokolowski, 2016; Paxton et al, 2005; HM Treasury, 2002).



Introduction

There is growing international, national and local concern about health inequalities associated with poor diets that are inadequate, inappropriate or both (WHO, 2023). Poor diet affects children's development and growth and is associated with ill health and reduced life expectancy in adults (Afshin et al., 2019). It has adverse effects on individuals, families and carers, increases the pressure on health services and negatively impacts productivity and prosperity (BMA, 2022). There is a growing need for support in accessing sufficient, healthy food. In areas such as Nottingham City and districts in Nottinghamshire County (*here on referred to as Nottinghamshire*) where there are acute levels of food poverty, it is a particularly pressing issue.

Across Nottinghamshire, various initiatives involving public, voluntary and private sector actors are being pursued to improve opportunities to eat well and to leverage the broader economic, social and environmental roles of food to develop healthy and sustainable places. The focus of this project is on 'More than Food' (MtF) meal services, which facilitate food and nutritional access in combination with social benefits, typically at a low cost and prioritising the needs of people experiencing vulnerability. These services include community cafes, social eating or dining/lunch clubs, school holiday clubs, meals at home and adult day services. This project did not cover meal provision in residential settings.

MtF meal services are delivered by public sector and voluntary and community sector (VCS) organisations. Public sector provision is integral to public health strategies and intersects with several other policy areas including health, adult social care, early years and education. VCS provision stems from a long tradition of voluntary action. It has expanded with the growing reliance on the VCS to deliver welfare services (Hogg and Baines, 2011; HM Treasury, 2002) and is highly valued for its capacity to reach vulnerable and marginalised groups. These types of services present opportunities to address nutritional need and, by providing meals in ways that promote and facilitate social contact, they afford vital opportunities to connect with others, with health and wellbeing benefits at individual and collective levels (Dunbar, 2017). Nottinghamshire is well served by the MtF meal services, in contrast to areas where services such as 'meals on wheels' have experienced a stark decline (NACC, 2023) and meal services have featured less prominent in VCS responses to food insecurity. Their direct benefits and potential to contribute to local systems are widely acknowledged and they have been incorporated into local strategies such as the [Sustainable Food Places](#) accreditation, the [Nottinghamshire Food Charter](#), the Food Security Network and Nottingham City's [Eating and Moving for Good Health](#) strategy.

In Nottinghamshire, networks of actors are seeking to extend collaborative activity to develop and sustain food-related initiatives. MtF meal services face particular challenges because they manage a broad and complex set of activities spanning food supply, distribution, logistics,



compliance with food safety regulation, the planning of menus and preparation of nutritionally appropriate meals, meal delivery or creating dining experiences that facilitate supportive social interactions. They manage a range of other strategic, planning and operational activities (e.g., promoting the service and facilitating) though these are out of scope for this project.

Collaborations with suppliers and other actors who can leverage diverse inputs have potential to advance the goals of the organisations involved and to realise positive impacts within the local area. While there is growing evidence of the health and social benefits of MtF meal services, limited attention has been devoted to supplier issues and impacts (Hunter et al., 2022; Mahmoudi et al., 2022; Mann et al., 2021; De Bernardi et al., 2021). Also, existing knowledge is siloed as studies concentrate on particular services and do not examine their collective capacity to address local need or inform thinking on more collaborative approaches. The overarching aim of this project was to co-develop understanding of different types of MtF meal services, their supplier needs, and to explore opportunities for innovation that can improve their operational and service performance, benefit other local actors involved in supplier networks, and contribute to improving health, social, environmental and economic outcomes within the local area.

Background

Although a diverse range of people participate in MtF meal services, demand is closely connected to food insecurity and social isolation, and the services often provide salient support for marginalised groups. Following the Covid-19 pandemic and the 'cost of living' crisis, the proportion of UK households experiencing food insecurity has risen markedly to a current level of 17% (Food Foundation, 2023; Department for Work and Pensions, 2023). Individuals and families more likely to experience food insecurity include those on low incomes (Loopstra, 2018), living with disability and ill health (Bucelli and McKnight, 2022), and facing social exclusion (e.g., people seeking asylum, homelessness). Local reports suggest that almost half of Nottingham city residents are struggling in some way to afford adequate and appropriate food (Dowdeswell, 2023), with significant impacts on dietary quality and health (FANSS, 2023). The rise in social isolation is an intersecting trend (Department for Digital Culture Media and Sport, 2018; Local Government Association, 2023), from which people are at particular risk if their supportive relationships are constrained by their family status and life events (e.g., following divorce, bereavement, relocation) or they are living with chronic physical and mental health conditions (National Academies of Sciences, Engineering and Medicine, 2020). These two issues create a need for MtF meal services independently and in combination. Evidence shows that people who are socially isolated are more likely to experience food insecurity (Burriss et al., 2019). Conversely, social relationships have been shown to protect against food insecurity and support better quality diets (Jackson et al., 2022) but this virtuous cycle bypasses people who experience social exclusion vis a vis food.



There is only a modest amount of research across the range of MtF meal services, with evaluations of service outcomes for participants being most prominent. Evidence is slowly building that MtF meal services provide access to a nutritionally balanced meal, improve dietary quality and experiences of food, promote food literacy and facilitate social benefits. Studies of VCS initiatives, community cafes and social eating initiatives for instance, show that users access a nutritionally balanced meal and participate in practices of care, companionship and hospitality that combat loneliness and build connections that benefit individuals and communities (Rotenberg et al., 2021; Smith and Harvey, 2021; Marovelli, 2019; Iacovou et al. 2013). VCS services also build experience and knowledge of food and nutrition and contribute to a wider sense of well-being (Luca et al., 2021). The HAF programme has significantly extended the reach of previous school holiday programmes. Evaluations show that children attending most clubs (93% in 2021) receive at least one meal on activity days and their social connections are improved (Department for Education, 2022). Qualitative insight suggests that the meals are a primary motivator of attendance, enhance children's food experiences and build confidence with food (Holley et al., 2019). There is a modest body of research into meals at home services, providing evidence that they improve dietary intake, positively impact on physical and emotional wellbeing (Walton et al., 2020; Thomas et al., 2020; Gualtieri et al., 2018) and afford opportunities to observe client needs and trigger referrals (Thomas et al., 2020). In contrast, research into meals provided as part of adult day services is sorely lacking, though evaluations (e.g., Vale of Glamorgan Healthy Living and Social Care scrutiny committee, 2018) emphasise that they similarly promote healthy lifestyles, reduce loneliness, and enhance wellbeing.

These findings underscore the positive impacts of MtF meal services but there has been limited attention to the challenges faced in sustaining, developing and scaling them, and the ways in which they adapt and innovate. There is significant potential for meal services to leverage their own strengths in combination with assets in local systems and beyond. Drawing on Ozcan and Hannah (2020), we refer to these sources as supplier ecosystems, defining supplier ecosystems for MtF meal services as the network of direct and indirect suppliers that they draw upon for inputs that enable them to develop internal capacity and processes, and narrow, change or extend the scope of their activities. The notion of supplier ecosystems overlaps with the concept of food assets. However, this terminology is applied to direct attention to resources and capacity relevant to the scope of services' meal-related activities, considering systems that include but are not limited to food systems and with a focus on but not limited to resources at the local level. Food producers and suppliers play a prominent role within these supplier ecosystems but they encompass other types of organisations and actors that can provide tangible and intangible inputs such as venues, facilities, equipment, food processing or storage capacity, delivery vehicles, staff and volunteers, training, food safety or nutritional expertise, and culinary skills.



In these multi-actor contexts, confronting questions of who might innovate, what they might change and *how* poses considerable complexity. Thus, connecting stakeholders and co-developing understanding of ways to adapt and innovate are critical processes to identify, and ultimately implement, new developments within individual organisations and through collaboration.

Project Objectives

To strengthen the potential of MtF meal services to address food insecurity and social isolation in Nottinghamshire, the objectives of this project were to:

- **co-learn** about MtF meal services operating across Nottingham City and Nottinghamshire County, whilst connecting and building relationships amongst stakeholders concerned with the development of low-cost food and meal provisioning
- **build understanding** of the purpose, goals, capacity and constraints on these services, especially those that have implications for how meals are procured, planned and produced
- **gain insight** into food supply and how it influences MtF meal service operations and outcomes
- **explore opportunities** for innovation with potential to advance MtF meal service operations and outcomes, benefit parties involved in supplier ecosystems, and contribute to improving health, social, environmental and economic outcomes within the local area

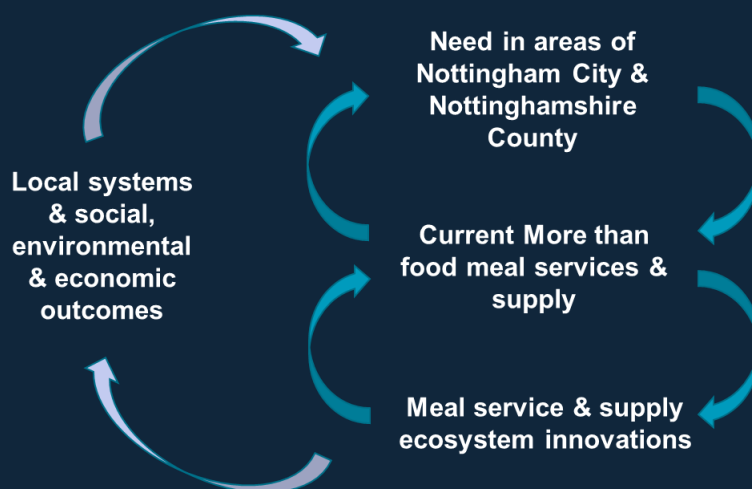


Figure 1: 'More than Food' meal service and supply ecosystem innovations and local system developments



Project Context and Approach

The project discussed in this report was funded by Research England's Policy Support Fund and carried out by researchers at the University of Nottingham between April 2023 and February 2024.

During this period of time, growing pressures on MtF meal services accompanied the continued rise in demand, operating costs and ongoing disruptions to their supply arrangements. While our focus was on innovation to leverage opportunities at the conception of the project, ways in which MtF meal services and suppliers were coping with or innovating in the face of these threats became a significant aspect of the dialogue.

A project management group was formed at the outset of the project to contribute to the design of activities, data generation, analysis and evaluation of the findings. It included representatives of diverse stakeholders including the city and county councils, public health, supplier organisations and public and voluntary sector service providers. This group met four times between April and December 2023 and individual members provided additional input and feedback via email, online meetings and written comments on the project output.

The project centred around two primary activities. First, a stakeholder event, involving sixteen representatives of organisations involved in MtF meal services, was held in June 2023 to co-learn about services operating across Nottingham City and Nottinghamshire County. Participants were recruited through a combination of approaches including adverts that appeared on social media and in the internal communications of stakeholder organisations and networks, invitations targeted at local organisations, existing contacts and snowballing. Through a series of collective and break-out discussions, participants shared their knowledge and experience of the purpose and nature of MtF meal services, their operations relating to food supply and the range of meal-related activities. They discussed challenges and opportunities and shared examples of adaptations or innovations pursued in response.

Secondly, seventeen in-depth interviews, plus a group consultation, were carried out to elaborate on themes identified from the stakeholder event. Themes probed during the interviews centred on resources and relationships that enable and inhibit MtF meal services' operations. Discussions explored the implications for service outcomes and whether services can be sustained, expanded and/or developed, with attention to interdependencies, tensions and trade-offs. For the interviews, a purposive sample of participants was recruited by email, phone or visits to service venues, drawing from the list of stakeholders in Nottingham City and Nottinghamshire County that were identified during recruitment for the stakeholder event. Interview participants included two people whose role or organisation supports meal service providers (i.e., a local coordinator and a representative of a network organisation), three service participants plus a discussion with a service participant group at one of their regular advocacy meetings and twelve representatives of VCS or public sector providers of MtF meal services.

Although the project engaged diverse stakeholders involved in different types of meal services there was a higher representation of the VCS and therefore more depth to the understanding generated on how VCS services operate. All elements of the research were conducted in line with the University of Nottingham's research ethics policies.



Findings

The findings below combine insight from desk research (including academic research, grey literature, online information on regulation, policy and information about organisations available online) and the co-learning generated during the stakeholder event, in-depth interviews and discussions with the project management group. The first section of the findings addresses project objectives 1-3. It outlines differences between MtF meal services and discusses strengths, challenges and risks for each type of service. The second section addresses the fourth project objective, presenting examples of ways in which MtF meal services and actors in local supplier ecosystems have adapted and innovated to address goals and challenges relating to the range of meal-related activities. It distinguishes between developments that are internal, partnership and network-based innovations and highlighting the range of goals that they serve. The project findings conclude with recommendations to promote innovations across the supply ecosystem for MtF meal services.

Types of ‘More than Food’ meal services

Table 1 sets out key features of different types of MtF meal services. This is not intended as a definitive characterisation as there are considerable differences between services of each type, rather it captures key features that shape these services and the meals they provide. It distinguishes the core service purpose and types of added value, the meal service model (including food standards that influence the nutritional qualities of meals) and describes aspects of capacity identified as primary inputs to be able to undertake the activities involved in running MtF meal services. In this section, discussion of the services’ strengths, challenges and risks is at the organisational level. The implications for other actors and the local area are picked up in the discussion of the opportunities for innovations.



Table 1: More than Food meal services’ purpose, meal model and capacity

Service type	Service purpose	Meal service model (incl. food standards)	Capacity - food supply sources	Capacity - funding, facilities & staffing
VCS initiatives: Social eating, community kitchens, community cafés, dining clubs	<p>Food security & social connection</p> <p>Added value: reduce food waste, care & social support, care, food experiences & socialisation, food literacy, welfare support.</p>	<p>Hot & cold meals freshly prepared, consumed on-site.</p> <p>Some take-home food.</p> <p>Food safety, ‘healthy’ meal based on staff/volunteer experience.</p>	<p>Food aid charities (purchased & donated surplus food), food received from local suppliers or community food growing initiatives, food purchased through mainstream commercial channels (e.g. supermarkets, wholesalers).</p>	<p>Grant income, income from meal sales, income from other revenue generating service or resources, donations.</p> <p>Accessible venues, variable facilities & equipment for food logistics & meal production.</p> <p>Volunteers & paid staff.</p>
School holiday clubs	<p>Food security & activity</p> <p>Added value: social connection, food experiences & socialisation, food literacy, welfare support.</p>	<p>Hot & cold meals freshly prepared or bought in, consumed on-site.</p> <p>Some take-home food parcels.</p> <p>Food safety, DfE ‘expected’ compliance with School Food Standard.</p>	<p>Meals bought in from local cafes/caterers & large-scale producers, surplus food received from food aid charities (purchased & donated) & community growing initiatives, food purchased through mainstream commercial channels (e.g. supermarkets, wholesalers).</p>	<p>DfE HAF funding, LA funding, charitable grants & donations</p> <p>Accessible venues; variable facilities & equipment for food logistics, storage & preparation.</p> <p>Volunteers, paid staff (provider organisations) & coordinators</p>

Key: Local authority (LA); Department for Education (DfE), National Association of Care Catering (NACC)



Table 1: Continued

Service type	Service purpose	Meal service model (incl. food standards)	Capacity - food supply sources	Capacity - funding, facilities & staffing
<p>Meals at home</p>	<p>Food security, independent living support, & reduce loneliness.</p> <p>Added value: care, wellness check, trigger family, health & social care support.</p> <p>VCS provision - reduce food waste.</p>	<p>Hot or chilled meals freshly prepared, regenerated or frozen, consumed at home.</p> <p>Food safety. LA provision - client choice, appropriate nutrition (compliant with NACC nutritional guidelines); VCS provision – ‘healthy’ meal.</p>	<p>LA provision – strategic supply arrangements.</p> <p>VCS – Surplus & non-surplus food received or purchased.</p>	<p>LA provision – sales income & LA funding</p> <p>Specialised production kitchens & distribution</p> <p>LA catering company (County Enterprise Foods), paid staff, professional roles across procurement, supply chain, meal planning & production.</p> <p>VCS provision – sales income, grant income, donations.</p> <p>Central kitchen facilities.</p> <p>Volunteers</p>
<p>Adult day service meals</p>	<p>Food security & social connection</p> <p>Added value: food experiences & socialisation, food literacy, caregiver respite.</p>	<p>Hot or chilled meals, freshly prepared or bought in, consumed on site.</p> <p>Food safety, client choice, appropriate nutrition based on professional expertise (statutory requirement, Health & Social Care Act 2008).</p>	<p>Insufficient data on range of arrangements</p>	<p>Insufficient data on range of arrangements</p>

Key: Local authority (LA); Department for Education (DfE), National Association of Care Catering (NACC)



1. Voluntary and community sector initiatives

There is a variety of VCS initiatives that offer MtF meal services including social eating, community kitchens, community cafes and dining/lunch clubs. 'Cook and eat' sessions also share some characteristics of these types of services. VCS initiatives offer opportunities to eat a meal in community settings. Core aspects of purpose are to tackle food insecurity and enable social connectivity. Whilst they aim to improve access to adequate food and nutrition, they often tackle hunger as a priority. Many simultaneously seek to address food waste and contribute to sustainable food system. Further forms of added value pursued by VCS initiatives are to provide care and social support, opportunities for food socialisation and food literacy, welfare assistance and support transitions towards food security.

Typical food service models are the offer of hot and cold meals for consumption on site, many of which are freshly prepared on site. In the case of social eating, community kitchens, dining/ lunch clubs and 'cook and eat' sessions, meals are offered at mealtimes to promote dining with others, while community cafes are less restrictive in the timing of meals. These types of services are not bound by requirements or expectations to comply with specific food standards or nutritional frameworks, rather they generally advocate healthy or balanced meals and rely on the experience of staff or volunteers. Some of these services cater for specific groups (e.g., older adults, refugees, people experiencing homelessness), while others connect people across communities. Meals are typically adapted to service participants' food cultures and tastes (e.g. traditional British, international, vegetarian, Halal). In some settings, food is also available for people to take home for a small fee, donation or without charge.

VCS initiatives have a range of supply arrangements to procure different types of food items. There is extensive use of purchased and donated surplus food that is supplied by food aid charities, received directly from local farms, producers or growing initiatives, or donated by or through local supermarkets. Many MtF meal services acquire the bulk of supplies through these sources, though they vary in their degree of reliance on a primary relationship. Most services that use surplus food also buy through commercial channels (e.g. supermarkets, wholesalers) to 'top-up' with supplementary food items (e.g., seasoning, additional ingredients) that are needed to use the bulk supplies and create an appealing and nutritionally balanced meal. Other approaches to food supply used by VCS initiatives include the use of commercial channels for the majority or all food items.

Funding, facilities and staffing are key aspects of capacity that interact with supply to affect operations and the service provided. Grant income, donations and income from meal sales are primary sources of funds for VCS initiatives, while some organisations also generate income from other services and resources (e.g. facilities/equipment hire). The level and adequacy of funding for the maintenance of the service varies. For example, many organisations operate on a hand-to-mouth basis whereas those that secure larger grants from charities, foundations, central or local government, which may cover costs of the core service over a period of time or service extensions (e.g., cooking classes), enjoy periods of more dependable funding. It was noted however, that this may increase subsequent financial vulnerability if the funding is withdrawn, and other incomes sources have not been maintained.



Volunteers are a mainstay for these types of meal services, but paid staff are also engaged to provide critical expertise, with chefs most commonly mentioned as bringing vital capabilities to support food safety compliance and enable VCS initiatives to make best use of the supplies they receive, for instance, to transform them into meals that are nutritional and appealing, process food for storage and minimise waste. Where volunteers bring this expertise, the reliance on key individuals can pose risks to the maintenance of the service. In terms of facilities, the appropriateness of the venue and range and quality of equipment available for food logistics and meal production varied markedly. In addition to these aspects of internal capacity, the networks of VCS initiatives are a key aspect of capacity, providing opportunities to exchange information and ideas and to collaborate for capacity building. National networks such as [Feeding Britain](#) and local counterparts (e.g., Feeding Mansfield, Feeding Ashfield) were mentioned as a valuable source for knowledge sharing, training and bridging access to other resources.

Dialogue on the strengths, risks and implications of food supply highlighted interactions with other meal-related activities and elements of VCS capacity. Primary advantages of developing supply relationships to receive surplus food relate to cost effectiveness and reducing waste in food systems. Key risks relate to the volatility of the volumes, quality and types of foodstuffs available. The goals and capacity of suppliers and their approach to the supply relationship with MtF meal services has implications for the level and types of capacity needed by the VCS initiatives. Discussion highlighted more challenges in surplus supply relationships in which goals are less well aligned, for instance, supplies received from supermarkets that are primarily seeking to reduce food waste rather than address food insecurity, tend to include more food items that are unusable or require considerable processing. Receiving surplus from source such as local producers and supermarkets can require substantial logistical capacity within organisations and groups running MtF meal service that is costly in terms of staff or volunteer time (e.g. transport, sorting, storage, administration, disposal of unusable items). In contrast, food aid charities are closely aligned with the core purpose of food insecurity and sustainable food systems. FareShare Midlands is a primary supplier in Nottinghamshire. They have distinctive capacity for surplus food supply (e.g., building supplier networks and relationships, sorting, food information/labelling, matching supply and demand, storage, delivery, pursuing resources such as donations, grants and facilities) and have evolved their role in supply relationships to support meal services and other initiatives addressing food insecurity (e.g., supporting food safety compliance, administration, providing in-person and online guidance and obtaining additional tangible resources such as freezers for VCS sites). This type of supply chain partner and relationship reduces the risks of unpredictable availability, reduces some of the capacity requirements for MtF meal services and, in turn, contributes to the long-term sustainability of MtF meal services that are often threatened by issues such as volunteer burnout.

Nonetheless, procurement of surplus food means that MtF meal services receive a limited and unpredictable range of foodstuffs, which limits choice, the timeframes for menu/meal planning and the potential to create nutritionally balanced meals. It also requires more expertise on the part of those planning menus, preparing meals, and processing food for storage, the necessary facilities and equipment and funding to buy supplementary ingredients to be able to use the food they receive. As this project was undertaken at a time when there were significant disruptions to food availability and food supply chains, the risk of over-reliance on food aid charities was pertinently illustrated. When FareShare Midlands was not able to provide their usual volumes and types of food, those meal services that maintained multiple supply relationship to provide bulk supplies were more resilient, whereas those that relied heavily on a single surplus supplier had few short-term options other than to use funds to buy food through commercial channels.



For MtF meal services that acquire all food through commercial retail and wholesale channels the availability risks are lower, although supermarkets do not always have enough stock of certain products. Meal service providers also feel uncomfortable when store managers complain that their bulk buying impacts stocking or results in shortages for other customers. VCS initiatives find this approach to food supply to be less cost effective and that they are less resilient to changes in funding because they lack diverse supply relationships to access low cost or donated food, which threatens the maintenance of the service in a volatile funding environment. Across the VCS initiatives, diverse income sources and financial stability, including financial reserves, were important aspects of capacity that interacted with supply to enable the maintenance of MtF meal services.

2. School holiday clubs

School holiday clubs are provided through the VCS, faith-based organisations, local authority initiatives, individual school-based programmes, and commercial organisations. There is substantial variability across services as they are adapted to local contexts. However, those that align with charitable schemes such as StreetGames' Fit and Fed or the government's Holiday Activities and Food (HAF) programme, which provide guidelines and support, have more common elements. Allocation of £220 million in 2021 to fund HAF provided a significant boost to funding for school holiday programmes. Nottingham City and Nottinghamshire County Councils received HAF funding from 2021 onwards and have appointed coordinators. The purpose of school holiday clubs typically centres on tackling food insecurity and inactivity, but programmes often include additional goals such as improving social connectedness, providing opportunities for novel food experiences, building food literacy, developing wider skills such as reading and building self-confidence. They also provide support for families, such as education, to facilitate purchasing and preparation of healthy meals at home and linking families with other forms of welfare support.

Holiday clubs' food service models include hot and cold meals for consumption on site, or packed lunches for off-site activities and trips. Families' food insecurity is exacerbated during school holidays and food is an important aspect of the offer made by clubs. All participants in our project who were involved in school holiday clubs had links to HAF. HAF funding covers school aged children from reception to year 11 (4-16 years), though around three quarters of children who attend are primary school aged (Department for Education, 2022). HAF guidelines specify that projects are expected to comply with School Food Standards whereas other projects may not use specific frameworks but try to give children experiences of diverse and nutritionally appropriate foods.

Holiday clubs have experimented with different approaches to food supply since the HAF programme was rolled out. They have procured pre-prepared meals from County Enterprise Foods and local vendors such as cafes and catering companies. They have bought food from local retailers or through the council and acquired or received surplus food from food aid charities, local growing projects and allotments to prepare fresh meals on site. Commercial retail and wholesale channels are widely used to 'top-up' when surplus provides the bulk of their food supplies. HAF coordinators emphasised that, aside from meeting holiday clubs' needs, there is an aspiration to extend the positive impacts of the programme by supporting local businesses and community initiatives.



Key funding sources for school holiday programmes are local authority funds, including Department for Education HAF funding, charitable grants and donations. Clubs are run by paid staff and/or volunteers and supported by a HAF coordinator employed by the local authority. Organisations that are primarily activity providers, may not have staff with experience of providing meals and have to develop this capacity. Holiday clubs are run in a range of venues that are accessible and have facilities for activities (e.g. schools, sports pavilions, sports clubs), though the facilities and equipment for food logistics, storage and preparation are variable and providers adapt over time. The local HAF coordinators are an important resource for holiday activity programmes, providing support for various aspects of the operation and, crucially, enabling knowledge sharing and building connections across communities to leverage a range of resources, including those in anchor organisations. The HAF programmes in Nottinghamshire have demonstrated considerable ingenuity and agility in the way they have engaged different types of actors and organisations to harness local assets such as equipment, kitchens, budgeting and catering expertise.

Constraints relating to meal provision can present challenges to school holiday clubs because of obstacles to making or buying meals. There are fewer supply options because clubs need meals that will appeal to children, their demand is seasonal, and a large number of meals is needed (accounting for all clubs in the area). A lack of skills and facilities hampers efforts to make meals on-site and the purchase of pre-prepared meals from large scale producers have not appealed to children and resulted in high levels of food waste. For those clubs that do not have capacity to produce meals on-site, primary advantages of purchasing food from local retail or catering outlets relate to their flexibility to provide the type and volume of food that clubs need, while risks relate to the limited capacity of suppliers to meet their needs and comply with the School Food Standards. For the local businesses, there are direct economic benefits and indirect advantages of extending their services and capacity and building linkages within the community. Clubs that are able to produce meals on site have found that receiving surplus food is cost effective, enables them to make meals that appeal to the children and affords opportunities for children to try new foods and to get involved with menu/meal planning and preparation. Where surplus foods are received from local sources such as growing schemes and allotments, the links created also contribute to connectivity within communities. Where HAF provides the primary funding for school holiday clubs, changes in the guidelines (e.g., expectations about the nature of the meal provided) can disrupt supply arrangements in which significant resources have been invested, with negative impacts for the holiday clubs and their suppliers.





3. Meals at home

Meals at home are non-statutory services centred on home delivery of meals to support older people and people with disabilities to live independently, protect against food insecurity, loneliness and social isolation. In Nottinghamshire, they are provided by the local authority and VCS organisations. Most users of both the local authority and VCS meals at home services are older people. The meals aim to provide appropriate nutrition to maintain health and avoid malnutrition, while the delivery arrangements facilitate wellness checks and afford friendly and caring social contact, delivering added value in terms of individual safety, health and wellbeing, as well as providing support for carers and helping to reduce avoidable health and care costs (NACC, 2023). Meals at home are paid-for services, for which people use private funds or personal care budgets (introduced through the Care Act 2014 to enable people to choose how their care needs are met) though the price to the service participant often does not cover the costs of the food plus delivery and may be supplemented either through local authority funds, volunteer labour or VCS funds.

The local authority provider, County Enterprise Foods produces meals for Meals on Wheels services in Nottinghamshire County, Nottingham City, as well as areas in Leicestershire and Yorkshire, and delivers meals throughout Nottinghamshire. It also produces meals for dining/lunch clubs, residential homes and day centres. In Nottinghamshire, it has a meal service model that includes options for delivery of a lunchtime meal (hot, frozen), breakfast (frozen) and tea (chilled) and is available every day of the year. Hot and chilled meals are delivered on a daily basis whereas frozen meals may be delivered with daily orders or as bulk-buys (e.g. fortnightly). They offer a choice of hot and frozen meals, which align with NACC nutritional guidelines. They have strategic supply arrangements for the range of foodstuffs used for meal production.

Across the UK, there has been a steady decline of meals at home services by local authorities, with funding constraints and limited supplier options amongst the primary reasons for this downward trend. County Enterprise Foods is a local authority owned company with has close to 100 paid staff with professional capabilities across procurement, supply chain management and meal production (incl. nutritional expertise). It works with the British Association for Supported Employment (BASE) to improve employment for people with disabilities. It has specialised production kitchens at a factory in Nottinghamshire, logistical and distribution capabilities for organisational clients and home delivery.

From an operational point of view, primary benefits of County Enterprise Foods' strategic supply relationships relate to control over procurement criteria, the reliability of supply under contractual agreements and risk sharing around issues such as supply disruption, substitution and price volatility. Challenges arise in balancing multiple procurement criteria, such as price, provenance, nutritional profile, environmental and social impacts. In the current environment, key risks relate to supply disruptions, inflationary pressures, and price increases. Mechanisms for supplier dialogue, involving professional



The VCS services are not available every day of the week. They tend to focus on hot meals and provide healthy or nutritionally balanced meals, though they do not follow specific nutritional guidelines. The supply arrangements for VCS providers of meals at home are more comparable to VCS initiatives such as social eating and community kitchens, for instance, combining surplus food supplies with items purchased through commercial retail and wholesale channels. Funding for VCS providers comes from a combination of meal sales, grant income and donations. They rely on volunteers for operations relating to food supply, meal planning and production, and delivery. Facilities vary but Sycamore Dining, one of the primary VCS providers, has well-equipped central kitchen facilities that support their meals at home and other services. For VCS meals at home providers that have supply arrangements comparable to other VCS initiatives, there are similar advantages and risks to those discussed in the section ‘Voluntary and community sector initiatives’.

4. Adult day service meals

Adult day services are offered by public and VCS providers to support older people and adults of working age with aspects of health, social and daily life. Where a meal is provided as part of the service, the purpose typically relates to food security (incl. access to appropriate nutrition) and social connection, developing friendships and combatting loneliness for instance. Learning about food through various food literacy activities, novel food experiences and socialisation is often an important dimension of added value. The meal service model varies across day services, encompassing hot or chilled meals freshly prepared on site, and bought-in pre-prepared meals. As for all meal services, there is a requirement to comply with food safety regulation, regardless of the meal service model. The Health and Social Care Act 2008 stipulates that meals should comprise appropriate nutrition and that services users should have a choice suited to their preferences and religious and cultural background. Participants in this project considered these to be positive goals but, in practice, they are often tensions. There was limited involvement in the project by providers of MtF meal services in the context of adult day services and, therefore, insufficient insight to describe or appraise their supply sources and other aspects of capacity. This is not to detract from the importance of these services as they often serve vulnerable adults whose dietary quality is relatively poor, and it is critical that they be engaged in further research and networks. Some participants who provided insight on day care had previously enjoyed a meal service that enabled them to eat a hot meal together during the day. However, this service had been cut during the Covid 19 pandemic, replaced with arrangements for service participants to bring packed lunches, and had not been resumed.

The range of MtF meal services in Nottinghamshire engage many of the groups that are likely to face food insecurity and social isolation or marginalisation. The primary groups served by each type of service are highlighted here but the project participants noted that people often participate in multiple services, for instance, those using adult day services also participate in community-based MtF meal services. The characterisation of each type of MtF meal service provides an overview of their similarities and differences. It builds understanding of key strengths and challenges, providing insight on issues that might be addressed through innovative developments and identifying existing and potential capacity that could feed into them.



Opportunities for innovations in More than Food meal services and supplier ecosystems

Throughout the project, participants shared examples of adaptations and innovations that have been trialled or implemented in Nottinghamshire. The range of examples provided in Table 2 is differentiated on the basis of *who* innovates and *what* is changed. The characterisation of these elements draws on literatures on supply innovation (Wong and Ngai, 2019), public service innovation (Chen et al, 2020) and market shaping (Nenonen and Storbacka, 2021). To describe who innovates, distinctions are drawn in the locus of innovation and examples are categorised as internal, within the bounds of individual organisations, partnership-based or network-based. To describe what is changed, the goals for each example are characterised in terms of their focus on the focal organisation or actor, supply-side, demand-side or wider system developments. All of these services aim to address food insecurity and social isolation for service participants, with implications for public health and health inequalities. These impacts are combined in each example and denoted as food insecurity/social isolation impacts for target groups.





Table 2: Illustrative examples of innovations with an internal, partnership and network-based locus

Example	Innovation focus	Goal orientation
<p>Tennis club, running a HAF club, buys slow cookers & shifts supply from pre-prepared meals to fresh/ambient produce for on-site meal preparation.</p>	<p>Internal</p>	<p>HAF club Organisation/actor: Develop capacity to produce meals on-site. Supply-side: Reduce uncertainty of finding suitable suppliers. Demand-side: Improve the appeal & nutritional quality of meals, build children’s experiences of food & food literacy. Local system: Build food literacy in the community, improve FI/SI for children & families.</p>
<p>Arkwright Community Garden offers Cook & Eat sessions, & social eating event.</p>	<p>Internal</p>	<p>Arkwright Community Garden Demand-side: Extend the community initiative/service, develop food literacy, facilitate engagement with new service users. Local system: Build food literacy, address FI/SI in the community.</p>
<p>Sycamore Dining partners with Nottingham City Homes to provide a hot meal for residents to eat together at the housing association’s sites.</p>	<p>Partnership</p>	<p>Sycamore Dining Organisation/actor: Diversify income. Demand-side: Extend social eating service, facilitate engagement with new service users. Housing association Demand-side: Improve residents’ access to nutritional meals & reduce social isolation. Collective Local system: Increase access to meal services for vulnerable adults through social prescribing, improve FI/SI for older people.</p>



Table 2: Continued

Example	Innovation focus	Goal orientation
<p>Nottinghamshire County Council & Urban Agriculture Consortium conduct FarmStart feasibility study</p>	<p>Partnerships</p>	<p>Nottinghamshire County Council Supply-side & demand-side: Build understanding of local producers, wholesalers & retailers, potential farming & growing workforce, market characteristics & consumer dispositions to buy local fresh produce. Urban Agriculture Consortium Organisation/actor: Income generation, advance organisational purpose to re-normalise local food growing & consumption. Collective Local system (long-term): Strengthen food producer sector, build skills & employability for food production, develop food secure communities, create local supply source for MtF meal service & other services/initiatives, reduce food miles.</p>
<p>Sycamore Dining partners with Nottingham City Homes to provide a hot meal for residents to eat together at the housing association's sites.</p>	<p>Network</p>	<p>Sycamore Dining Organisation/actor: Diversify income. Demand-side: Extend social eating service, facilitate engagement with new service users. Housing association Demand-side: Improve residents' access to nutritional meals & reduce social isolation. Collective Local system: Increase access to meal services for vulnerable adults through social prescribing, improve FI/SI for older people.</p>



Table 2: Continued (2)

Example	Innovation focus	Goal orientation
<p>Pulp Friction community cafe uses the kitchens at Nottinghamshire Fire & Rescue as a base for the café, catering service & training, & surplus food from FareShare Midlands, & M&S, Coop & Lidl via Neighbourly.</p>	<p>Network</p>	<p>Diversify income streams, expand training opportunities for people with learning disabilities & autism, increase capacity to use different types of surplus food supplies.</p> <p>Fire & Rescue Service</p> <p>Organisation/actor: maintain hot meal service for staff.</p> <p>Surplus suppliers (FareShare/Marks & Spencers/Co-op/Lidl)</p> <p>Organisation/actor: Facilitate use of surplus to reduce food waste, expand use of 'missed opportunity' & 'hard to place' surplus food.</p> <p>Collective</p> <p>Local system: Build local capacity for meal production, develop employability skills & provide employment opportunities for people with learning disabilities & autism, improve health for people with learning disabilities & autism & other service users, reduce food waste.</p>

Key: Local authority (LA); Department for Education (DfE), National Association of Care Catering (NACC)





Table 2: Continued (3)

Example	Innovation focus	Goal orientation
<p>Nottingham City Council, FareShare Midlands, & Pulp Friction volunteers pilot the production of meals from surplus food in catering kitchens at the council offices.</p>	<p>Network</p>	<p>Nottingham City Council Supply-side: Expand local capacity to tackle food insecurity & social isolation.</p> <p>FareShare Midlands Organisation/actor: Expand use of surplus & reduces food waste by using ‘missed opportunity’ & ‘hard to place’ surplus food, reduce food waste, develop food processing capacity. Supply-side: offers members a supply option of food requiring limited processing & preparation.</p> <p>Pulp Friction Organisation/actor: training opportunities for people with learning disabilities & autism. Collective Local system: Support maintenance & scaling of VCS initiatives, provide employment, create market opportunities for local food producers, improve FI/SI for people experiencing various forms of vulnerability (low income, homelessness, refugees), reduce food waste.</p>

Key: Local authority (LA); Department for Education (DfE), National Association of Care Catering (NACC)



There is a number adaptations and innovations for which the locus is internal. In the examples detailed in Table 2, demand-side goals relating to improving service effectiveness are key drivers (i.e., extending the service and creating opportunities to engage new service participants, improving the appeal and nutritional quality of meals, developing food literacy), alongside contributions to local communities and wider local systems. The example of the HAF club highlights that there are often intersecting supply-side and organisational goals, in this case, reducing the uncertainty of finding suitable suppliers and building capacity to produce meals on-site. Other examples elicited during the project suggested that adaptations and innovations with an internal locus are often a response to localised problems, for instance, the need to increase the cost-effectiveness of food supply, reduce demands on volunteer time, augment particular forms of expertise, or increase capacity to store, process and prepare foods. Turning to supplier ecosystems for inputs to address these challenges may be more efficient, in principle, but it may be inhibited by a lack of awareness, access to options or the loss of control that organisations experience when they rely on external parties. These concerns emphasise the importance of mutual understanding, trust, goal alignment and responsive relationships for effective partnerships. Against the broader ambition to build the number and range of MtF meal services in Nottinghamshire, innovations with an internal locus can play an important role in helping MtF meal services to improve service operations, effectiveness, and the potential to maintain and develop the service. The capacity and resources that they leverage are valuable at a particular level (e.g., organisation, community) but their scope and scale are bounded.

The partnership and network-based examples reveal the diverse parties involved in developments to address challenges facing MtF meal services and create value in new ways. They show how MtF meal services use their strengths to enable and support alternative services (e.g., social eating groups supporting HAF clubs). In addition, the range of resources that are mobilised when multiple organisations and actors in supply ecosystems come together are pertinently illustrated. The examples include actors such as MtF meal providers, food aid charities and local authorities that are prominent within supplier ecosystems for these services but also highlight the potential to involve parties that may not typically be identified in food-related asset mapping such as the Fire and Rescue Service. Yet they have resources that can be deployed for meal-related activities when combined with those of other collaborators.

Amongst the cases are initiatives oriented towards supply-side developments, seeking to increase the efficiency and effectiveness of operations, build capacity and resilience, and demand-side developments that aim to expand services, their reach and appeal to and benefits for service participants. Such examples demonstrate how working together enables organisations and actors to tackle ambitions and challenges that present significant obstacles when acting alone. These cases of partnership and network-based innovations also reveal the prominence of collective ambitions to strengthen local systems and improve health, social, environmental and economic outcomes in these collaborative initiatives.

While the primary focus of the project was on local level developments, it also uncovered innovations beyond the county that have potential to benefit local MtF meal services as they filter down from a national level. A prime example is [FareShare's national Flex project](#), which seeks to increase the diversity of foods they can redistribute through canning and preserving activities.



MtF meal services for adult day services and meals at home are under-represented in the examples outlined above and there is a need for further exploration and experimentation around innovations in these services and through connections into supplier ecosystems. The lens of supplier ecosystems can be applied to consider inputs to a wide range of MtF meal service activities. In this project attention centred on meal-related activities but it is easy to envisage innovations in relation to other activities, for instance, developing customer insight and marketing capacity to facilitate expansion into income generating markets for both MtF services and supplier organisations. Consideration of the full range of activities that MtF meal services manage suggests that there many gaps to address to comprehensively exploit supplier ecosystems.

Future network-based innovations that have been discussed in Nottinghamshire include small scale collaborations and initiatives to leverage the resources and power of larger organisations such as developing a [dynamic procurement system](#), extending FareShare Midlands' surplus meal and ingredient processing pilot, increasing access to locally grown foods, and some kind of VCS food wholesale supply to enable VCS initiatives to access foods they are currently buying on an ad hoc basis from supermarkets and wholesalers. They highlight the significant potential to capitalise on strengths within local systems to confront challenges, pursue new opportunities and develop income generation opportunities to sustain and strengthen the parties that contribute to these ecosystems. In contrast to internal changes, partnership and network-based innovations have potential to leverage capacity from across organisations and actors and to co-create solutions, which sometimes challenge established approaches (Kharazmia and Dartoomiba, 2023). However, facilitating these developments can be complex as they require the competences, capacity and structures to facilitate communication, cooperation and coordination (Taatila et al., 2006).





Looking forward

MtF meal services have a strong foundation in Nottinghamshire, based on the number and range of services offered, the population sub-groups and geographic areas served, the capacity accessed through the diverse organisations and actors that have engaged in supplier ecosystems, the local experience developed and trusting relationships forged. This substantial body of activity provides a sound basis on which to build towards integrated approaches that expand and strengthen supplier ecosystems supporting the range of activities managed by MtF meal services, and simultaneously promoting the positive cycle of development towards food secure communities. Many collaborative developments arise through entrepreneurial partnerships and networks but they can be facilitated by collective knowledge-building and shaping aspects of the environment to promote collaboration, and orientate and facilitate new initiatives.

Developing and using local data and insight

There are many sources of data that can inform understanding of the need for MtF meal services in Nottinghamshire, how they operate and why, and their impacts. These include, but are not limited to, national level surveys, indexes, mapping tools, Joint Strategic Needs Assessments (JSNAs), local surveys and qualitative studies, data held by different types of stakeholders, asset mapping and evaluations. The usability of these data for strategic decision making, planning and policymaking is hampered because it is widely dispersed, and mechanisms to integrate, update and share it are lacking. Meanwhile, significant resources continue to be invested in new research, sometimes without knowing about or evaluating existing local data and insights to identify the gap and prioritise amongst them. A wide range of data are potentially relevant, however, and better understanding of local users of data and research findings is needed to determine the scope of such endeavours, while insight into why and how they might be used is required to develop approaches that address issues of accessibility and usability.

These data and insights can inform innovation and help to direct new investments towards areas of unmet need and across supply ecosystems. None the less, building understanding of novel initiatives and what works locally will inevitably be driven by an entrepreneurial spirit and involve elements of experimentation. Understanding of the motives and experience of different types of organisations and actors in supplier ecosystems, and how to create enabling environments, would help to promote and foster collective ingenuity across supply ecosystems. 'Test and learn' approaches that evaluations, feedback and adaptations into processes of learning and development provide valuable understanding for stakeholders who are directly involved and for sharing more widely.

Integration, dialogue and collaboration

Partnership and network-based innovations are facilitated through three interconnected spheres of activity: integration, dialogue and coordination. Substantial work is already underway in Nottinghamshire to develop more interconnected approaches that support the maintenance and development of MtF meal services but there is considerable scope for further action to advance these endeavours.



Integration mechanisms help to create value by enhancing the flow of knowledge and information and giving participants equal opportunity to share ideas, concerns and resources. They can build inter-dependent relationships based on trust and professionalism, which are vital to open communication. Integration also facilitates social interaction and dialogue. Cohesive and well-managed networks where members share an understanding of each other's goals and challenges and promote reflection are key to developing a shared vision, shaping and gaining acceptance of innovative ideas to solve complex and entrenched issues (Weber and Khademian, 2008).

The purpose of such mechanisms varies; they may be established to develop area-wide strategies, to build connectivity between a more narrowly bounded range of organisations or to address specific challenges. A growing number of cities and places are bringing stakeholders together to develop food charters and plans. [Sheffield](#) and [Bristol](#) have already engaged in substantial knowledge integration activities to this end. The Nottinghamshire Food Security Network, the MARKETs workshops, the Nottingham Good Food Partnership, and FoodCycle's pre-launch information gathering exercises are all examples of integration and dialoguing that are already in place in Nottinghamshire. Alternative integration mechanisms at community levels include area grant leads, health leads and food coordinators. However, these have particular remits and there is a need for dedicated attention to questions on how supplier ecosystems can strengthen and expand MtF meal services and realise mutual and system-wide benefits.

Such mechanisms have potential to engage stakeholders in developing an overarching strategic approach and for more targeted activity, perhaps through working groups, that concentrates on ways to support the range of activities for MtF meal services (i.e., food supply, distribution, logistics, compliance with food safety regulation, the planning of menus and preparation of nutritionally appropriate meals). For example, two critical activities for MtF meals services are food compliance and preparing nutritionally appropriate meals for service participants. Safeguarding against risks associated with acquiring, processing and distributing food is a priority. Practices to manage these risks are well established in industry and the public sector but the VCS also needs to ensure compliance. The [Food Standards Agency](#) has created resources to support community initiatives with food safety compliance and FareShare Midlands employs staff who advise on food safety, complete site inspections and work closely with anchor organisations. However, further developments are needed to build capacity and confidence within the VCS, protect service participants, enable VCS initiatives to exploit novel supply opportunities and further leverage assets held by stakeholders such as local authorities and FareShare Midlands.

Similarly, identifying ways to increase access to nutritional and menu planning expertise could improve the nutritional adequacy of meals provided for population sub-groups through MtF meal services and advance public health goals by meeting different nutritional needs. There are national level resources to support these goals, such as the healthier catering guide produced by [Public Health England](#), but individuals and networks that understand the local context, can share knowledge and expertise in various forms and support the translation of knowledge into practice are also needed. There are strong competencies across Nottinghamshire, for instance dietitians and chefs working in industry and the public sector, but ideas need to be generated, acceptance gained and initiatives designed, developed and embedded. On the supply side, clearer understanding of the capacity of farmers, food producers, distribution and logistics companies to support MtF meal service is needed. Organisations such as [Waste Knot](#) who work closely with growers and farmers, might be key partners to input into dialogue on such issues alongside FareShare Midlands, local authority procurement and catering functions that have considerable networks of contacts with industry who could be called upon to input to such working groups.



Alongside the formation of integration and dialoguing mechanisms, effective means of materialising or implementing new initiatives is required. While the literature suggests that network structures may play a positive role in innovation processes (Zaltman et al., 1973; Pierce and Delbecq, 1977), problems arise because, unlike traditional organisational structures, no one is in charge (Keast et al., 2004). There is sometimes an expectation that larger and well-established organisations will take on coordination roles but critical capacity such as supplier relationships and community engagement is often held in other groups. In practice, multiple network structures are likely to emerge to create mechanisms of coordination to facilitate innovation processes. It is likely that any strategic group going forward would have both elements of bureaucratic structure combined with informal, horizontal (or peer-to-peer) collaborative approaches.

Engaged and whole system policy approaches

There is a trend towards engaged and whole system policy approaches, especially for policy relating to public health and welfare services (PHE 2019; 2020). There are multiple interconnections between food insecurity, social isolation, health inequalities and the food and supplier ecosystems that might be engaged to address these challenges. While there is a need to bound specific policy initiatives, approaches that engage external stakeholders and reach across local authority departments and functions have greater potential to target the levers of change through strategic priorities, funding, infrastructure, market-based mechanisms, VCS and public services and support. It also provides a further opportunity to build shared understanding of policy trends and the implications for mobilising resources for MtF meal services and progress a broader [food ladders](#) approach (Blake, 2019).





Recommendations

The recommendations outlined below provide a roadmap for researchers, policymakers, practitioners and other stakeholders to explore the local value of MtF meal services, mobilise resources and coordinate collaboration in innovation.

Recommendation 1: Gather, integrate and share dynamic data, including lived experience, to build understanding and track local evidence on food insecurity and social isolation for population sub-groups and the linkages with health and wellbeing.

Recommendation 2: Evaluate the implementation and outcomes of MtF meal services, including their cost effectiveness and preventative effects. Identify how supplier ecosystems influence 'what works' by examining how their inputs affect service processes and outcomes.

Recommendation 3: Generate evidence on the motives and experience of different types of organisations and actors in supplier ecosystems that have engaged in independent and collaborative innovations.

Recommendation 4: Build capacity for and promote dynamic or 'test and learn' approaches with built-in feedback and modification mechanisms to help derisk innovations in the early stages.

Recommendation 5: Transform data and the findings of research and experimentation into accessible and useful forms. Develop materials and programmes of activity to showcase, disseminate and engage stakeholders in cycles of knowledge building activity.

Recommendation 6: Facilitate integration by mapping assets and establishing platforms for local resource sharing and coordination. Currently, organisations and actors across the county hold resources that could significantly enhance MtF meal services. County-wide efforts to identify resources and establish platforms and processes to enable their use could mobilise diverse and currently untapped system resources.

Recommendation 7: Develop mechanisms for collaborative innovations, to promote and facilitate integration, dialogue and coordination at a local level. Networks varying in scope and purpose can enable knowledge sharing amongst stakeholders or support progression through stages of coordination from developing a shared commitment, creating a shared vision, aligning goals and developing and implementing new strategies and actions. Evaluations of alternative model, exemplars of good practice and expert input are important to form and run networks effectively.

Recommendation 8: Progress towards whole systems policy approaches that engage multiple local authority departments and stakeholders in MtF meal services and supplier ecosystems. Embed a prevention-orientation and target stakeholders with funding, policy, regulatory capacity and resources to facilitate scalable innovations.



Conclusions

There is widespread acknowledgement that MtF meal services play an important role in tackling food insecurity and social isolation across Nottinghamshire and participants in this project conveyed a shared ambition to build on their good work. Yet there are significant challenges in sustaining, developing and scaling these services and a need to leverage inputs from supplier ecosystems to build capacity and resilience. Current initiatives and networks provide illustrations of good practice and a springboard to progress collaborative approaches. As this work advances, adopting whole system policy approaches that engage diverse stakeholders, developing local knowledge and evidence platforms, and creating networks for integration, dialogue and coordination will be fundamental actions to facilitate collaboration and promote innovation.

In addition, diverse and persistent efforts to explore the potential of MtF meal services, experiment with innovative ideas and engage organisations and actors to provide novel inputs will be needed to fuel the cycle of positive develop and confront challenges in an ever more dynamic environment. The recommendations outlined in this report are intended to guide 'next steps' thinking and action and to advocate collective efforts that combine the expertise of academics, local authorities, practitioners across sectors and communities, which will be vital to realising the value of MtF meal services and systems that leverage the potential of food for wellbeing.





References

Afshin, A., Sur, P.J., Fay, K.A., Cornaby, L., Ferrara, G., Salama, J.S., Mullany, E.C., Abate, K.H., Abbafati, C., Abebe, Z. and Afarideh, M., (2019). 'Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017'. *The Lancet*, 393(10184), pp.1958-1972.

Blake, M.K., (2019). 'More than just food: Food insecurity and resilient place making through community self-organising'. *Sustainability*, 11(10), p.2942.

British Medical Association (BMA), (2022). 'Valuing health: Why prioritising population health is essential to prosperity'. Available online <https://www.bma.org.uk/media/6228/bma-valuing-health-report-final-web-oct-2022.pdf>. Accessed 07-12-2023.

Bristol Food Policy Council (2013). 'A Good Food Plan for Bristol'. Available online <https://bristolgoodfood.org/wp-content/uploads/2023/06/Bristol-Good-Food-2030-Action-Plan.pdf>, page 10. Accessed 23-02-2024.

Bucelli, I. and McKnight, A., (2022). 'Poverty and social exclusion: Review of international evidence on food insecurity', Wales Centre for Public Policy.

Bristol Good Food, 'Bristol Good Food 2030 - A One City Framework for Action'. Available online <https://bristolgoodfood.org/wp-content/uploads/2023/06/Bristol-Good-Food-2030-Action-Plan.pdf>. Accessed 27-02-2024.

Burris, M., Kihlstrom, I., Serrano Arce, K., Prendergast, K., Dobbins, J., McGrath, E., Renda, A., Shannon, E., Cordier, T., Song, Y. and Himmelgreen, D., (2021). 'Food Insecurity, Loneliness, and Social Support among Older Adults', *Journal of Hunger & Environmental Nutrition*, 16:1, pp. 29-44.

Chen, J., Walker, R.M. and Sawhney, M., (2020). 'Public service innovation: a typology'. *Public Management Review*, 22(11), pp.1674-1695.

De Bernardi, P., Bertello, A., Venuti, F. and Zardini, A., (2021). 'Knowledge transfer driving community-based business models towards sustainable food-related behaviours: A commons perspective'. *Knowledge Management Research & Practice*, 19(3), pp. 319-326.

Department for Digital Culture Media and Sport, (2018). Available online https://assets.publishing.service.gov.uk/media/5fb66cf98fa8f54aafb3c333/6.4882_DCMS_Loneliness_Strategy_web_Update_V2.pdf. Accessed 27-02-2024.

Department for Education (DfE), (2022). 'Evaluation of the 2021 holiday activities and food programme: Research report'. Available online. https://assets.publishing.service.gov.uk/media/6246db758fa8f52777576286/Evaluation_of_the_2021_holiday_activities_and_food_programme.pdf. Accessed 27-02-2024.



Department for Work and Pensions (2016) 'Health, work and well-being – Caring for our future. A strategy for the health and well-being of working age people'. Available online <https://assets.publishing.service.gov.uk/media/5a7ccae4ed915d63cc65cdf/health-and-wellbeing.pdf>. Accessed 23-02-2024.

Dowdeswell (2023) Available online <https://www.nottinghamworld.com/your-nottingham/nottingham/nearly-half-of-nottingham-residents-suffer-from-food-insecurity-4107554>. Accessed 27-02-2024.

Dunbar, R.I., (2017). 'Breaking bread: the functions of social eating'. *Adaptive Human Behavior and Physiology*, 3, pp. 198-211.

Dynamic Food Procurement Advisory Board (2021). 'Case study for the provision of school food in Bath & North East Somerset'. Available online https://www.dynamicfood.org/files/ugd/6b24d7_55630340ed8140b0b118a2cc04d8b68d.pdf. Accessed 27-02-2024.

FareShare UK, (2023) 'FareShare's food life extension project: Flex Project. Available online <https://fareshare.org.uk/flex/#:~:text=Through%20the%20project%2C%20FareShare%20takes,of%20charities%20supporting%20local%20communitiesccessed>. Accessed 27-02-2024.

Feeding Britain (2024). What Works Centre, 'Affordable Food Clubs'. Available online <https://feedingbritain.org/what-works-centre/affordable-food-clubs>. Accessed 27-02-2024.

Food and nutrition security survey in Nottinghamshire (FANSS), (2023). 'Establishing the extent, severity and drivers of food insecurity in Nottinghamshire', Report produced by M. Thomas, S. Hibbert, J. Harvey and S. Welham for Nottinghamshire County Council.

Food Foundation, (2023) Available online <https://foodfoundation.org.uk/news/food-prices-tracker-july-2023>. Accessed 27-02-2024.

Department for Work and Pensions (DWP), (2023). Family Resources Survey: Financial year 2021 to 2022. Available online <https://www.gov.uk/government/statistics/family-resources-survey-financial-year-2021-to-2022>. Accessed 27-02-2024.

Food Standards Agency, (2020). 'Food safety for community cooking and food banks'. Available online <https://www.food.gov.uk/safety-hygiene/food-safety-for-community-cooking-and-food-banks>. Accessed 27-02-2024.

Gualtieri, M.C., Donley, A.M., Wright, J.D. and Vega, S.S., (2018). 'Home delivered meals to older adults: a critical review of the literature'. *Home healthcare now*, 36(3), pp.159-168.

HM Treasury (2002). 'The Role of the Voluntary and Community Sector in Service Delivery: A Cross Cutting Review'. London: HMSO.

Hogg, E. and Baines, S., (2011). 'Changing responsibilities and roles of the voluntary and community sector in the welfare mix: a review'. *Social policy and society*, 10(3), pp.341-352.



Holley, C.E., Mason, C. and Haycraft, E., (2019). 'Opportunities and challenges arising from holiday clubs tackling children's hunger in the UK: Pilot club leader perspectives'. *Nutrients*, 11(6), p.1237.

Hunter, E., Norrman, A. and Berg, E., (2022). 'Quantifying differences in alternative food network supply chain activities and their relationship with socio-economic outcomes'. *International Food and Agribusiness Management Review*, 25(1), pp.83-101.

Iacovou, M., Pattieson, D.C., Truby, H. and Palermo, C., (2013). 'Social health and nutrition impacts of community kitchens: a systematic review'. *Public Health Nutrition*, 16(3), pp.535-543.

Jackson, A.M., Weaver, R.H., Iniguez, A. and Lanigan, J., (2022). 'A lifespan perspective of structural and perceived social relationships, food insecurity, and dietary behaviors during the COVID-19 pandemic'. *Appetite*, 168, p.105717.

Local Government Association, (2023). Available online <https://www.local.gov.uk/parliament/briefings-andresponses/debate-tackling-loneliness-and-connecting-communities-house>. Accessed 27-02-2024.

Loopstra, R., (2018). 'Interventions to address household FOOD INSECURITY in high-income countries'. *Proceedings of the Nutrition Society*, 77(3), pp.270-281.

Luca, N.R., Smith, M. and Hibbert, S., (2023). 'A community-based participatory research approach to understanding social eating for food well-being'. *Emerald Open Research*, 1(10).

Mahmoudi, M., Shirzad, K. and Verter, V., (2022). 'Decision support models for managing food aid supply chains: A systematic literature review'. *Socio-Economic Planning Sciences*, 82, p.101255.

Mann, E., Widdison, C., Sattar, Z. and Defeyter, M.A., (2021). 'Procurement and delivery of food at holiday provision clubs'. *Journal of Agriculture, Food Systems, and Community Development*, 11(1), pp.45-57.

Marovelli, B., (2019). 'Cooking and eating together in London: Food sharing initiatives as collective spaces of encounter'. *Geoforum*, 99, pp.190-201.

National Association of Care Catering (NACC), (2023). Meals on wheels report 2023. Available online <https://custom.cvent.com/6A39FE9AEAAF4637BF3A865A8131485A/files/b4383775da4c43e6bc5ac6e9d32f15f3.pdf>. Accessed 27-02-2024.

National Academies of Sciences, Engineering and Medicine, (2020). Social isolation and loneliness in older adults: Opportunities for the health care system. National Academies Press.

National Health Service (NHS) England. Available online <https://www.england.nhs.uk/about/equality/equality-hub/national-healthcare-inequalities-improvement-programme/our-approach-to-reducing-healthcare-inequalities/anchors-and-social-value/>. Accessed 27-02-2024.



Nenonen, S. and Storbacka, K., (2021). 'Market-shaping: navigating multiple theoretical perspectives'. *AMS Review*, 11(3-4), pp.336-353.

Ozcan, P. and Hannah, D., (2020). 'Forced ecosystems and digital stepchildren: Reconfiguring advertising suppliers to realize disruptive social media technology'. *Strategy Science*, 5(3), pp.193-217.

Paxton, W., Pearce, N., Unwin, J. and Molyneux, P., (2005). 'The voluntary sector delivering public services'. York: Joseph Rowntree Foundation.

Public Health England (2017) 'Healthier Catering Guidance for Different Types of Businesses'. Available online

Rotenberg, K., Surman, E. and McGrath, M., (2021). 'Loneliness, food poverty, and perceived benefits of communal food consumption from a charity service'. *Journal of poverty*, 25(5), pp. 465-479.

Salamon, L.M. and Sokolowski, S.W., (2016). 'Beyond nonprofits: Re-conceptualizing the third sector'. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 27, pp.1515-1545. Sheffood (2023). 'Local Food Action Plan for Sheffield'. Available online <https://sheffood.org.uk/wp-content/uploads/2023/06/sheffield-local-food-action-plan-2023-links.pdf>. Accessed 27-02-2024.

Smith, M. and Harvey, J., (2021). 'Social eating initiatives and the practices of commensality'. *Appetite*, 161, p. 105107.

Taatila, V.P., Suomala, J., Siltala, R. and Keskinen, S., (2006). 'Framework to study the social innovation networks'. *European Journal of Innovation Management*, 9(3), pp.312-326.

Thomas, K.S., Gadbois, E.A., Shield, R.R., Akobundu, U., Morris, A.M. and Dosa, D.M., (2020). 'It's not just a simple meal. It's so much more': Interactions between meals on wheels clients and drivers'. *Journal of Applied Gerontology*, 39(2), pp.151-158.

Vale of Glamorgan Healthy Living and Social Care scrutiny committee, (2018). Available online https://www.valeofglamorgan.gov.uk/Documents/_Committee%20Reports/Scrutiny-HLSC/2019/19-06-18/Reshaping-Services-Adult-Day-Services-Meal-Provision.pdf. Accessed 27-02-2024

Walton, K., do Rosario, V.A., Pettingill, H., Cassimatis, E. and Charlton, K., (2020). 'The impact of home-delivered meal services on the nutritional intake of community living older adults: a systematic literature review'. *Journal of Human Nutrition and Dietetics*, 33(1), pp.38-47. Waste Knot <https://www.wasteknot.org.uk/>

Wong, D.T. and Ngai, E.W., (2019). 'Critical review of supply chain innovation research (1999–2016)'. *Industrial Marketing Management*, 82, pp.158-187.

Weber, E.P. and Khademian, A.M., (2008). 'Wicked problems, knowledge challenges, and collaborative capacity builders in network settings'. *Public administration review*, 68(2), pp.334-349.



World Health Organization (WHO), (2023). Available online

<https://www.who.int/publications/m/item/the-state-of-food-security-and-nutrition-in-the-world-2023>.

Accessed 27-02-2024.

i For example, Bristol Good Food Plan (<https://bristolgoodfood.org/wp-content/uploads/2023/06/Bristol-Good-Food-2030-Action-Plan.pdf> , page 10) refers to the following engagement processes: 'Stakeholders who supported the Sustainable Food Places Gold Award bid, plus other individuals, representing over 50 organisations in total, were engaged in the Bristol Good Food 2030 (BGF2030) concept, resulting in the formation of theme-based working groups and a steering group, known as the Bristol Good Food 2030 Partnership (BGF2030 Partnership). A bottom-up process was used, with stakeholders identifying the issues that most need addressing, reviewing these against Bristol's existing food goals and recommending prioritised actions between now and 2030. Food systems best practice was then reviewed and incorporated into the final Framework for Action and approved by the BGF2030 Partnership. Whilst citizens were not directly consulted due to the available resources and timeframes, stakeholders from community settings have been able to represent citizen voices.'