Changes to household food shopping practices during the COVID-19 restrictions: Evidence from the East of England

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ARTICLE INFO	ABSTRACT
	Measures to control the spread of COVID-19 have changed the way we shop for food and interact with food environments. This qualitative study explored food shopping practices in the East of England, a large diverse region including coastal, urban and rural settings. In 2020/2021 we interviewed 38 people living in the region and 27 professionals and volunteers providing local support around dietary health. Participants reported disruption to supermarket shopping routines; moving to online shopping; and increased reliance on local stores. COVID-19 has impacted disproportionately upon lower-income households and neighbourhoods. The longer-term implications for dietary health inequalities must be investigated.

1. Introduction

Many countries have used lockdown strategies to limit the spread of COVID-19 and protect public health. Attempts to control case numbers required people to observe social distancing and to suspend non-essential activities (Centers For Disease Control And Prevention, 2021; Department Of Health And Social Care, 2020). During the restrictions, people were told to stay at home and only go out for essential reasons, including food shopping (Jribi Et Al., 2020). The restrictions changed and limited the ways people could use the built environment, including indoor and outdoor spaces. The pandemic is redefining our relationship with place, and geographers are exploring its spatial, relational and material effects (Aalbers Et Al., 2020)

Evidence suggests that lockdowns and social distancing led to decreased physical activity and increased consumption of processed foods because it renders people less mobile, less able to access healthful foods, and more likely to eat when they are not hungry (Mattioli Et Al., 2020; Cuevas And Barquera, 2020). However, the impacts of COVID-19 and the restrictions have been regionally differentiated, with some areas and groups faring better than others (Kapitsinis, 2020). Public health and economic crises impact disproportionately on low-income households and disadvantaged groups and neighbourhoods (Álvarez-Gálvez Et Al., 2019). There is a concern that the COVID-19 restrictions have pushed those living in poverty, or in areas with limited access to quality foods, into purchasing more unhealthy food or resulted in them "going

hungry" (The Food Foundation, 2020). In fact, unhealthy eating patterns developed during the COVID-19 pandemic are more prevalent in already at-risk populations (Ashby, 2020; Power Et Al., 2020).

1.1. The changing retail food environment

COVID-19 mitigation measures have curtailed consumers' ability to access and afford food (Ahmed Et Al., 2020). They have disrupted the traditional food supply and access strategies employed by retailers and customers and established new ones. In doing so, the mitigation measures have changed food environments and the way consumers interact with them (Leone Et Al., 2020). It may have a lasting impact on consumer behaviour; food availability, affordability, choice and price (Cummins Et Al., 2020). Disruptions to supply chains and panic buying, in particular, may have limited access to fresh food, tilting the balance towards greater availability and consumption of highly processed long-life foods (Tan Et Al., 2020).

1.2. Food shopping

The impact of the pandemic on food shopping practices has been the topic of popular debate and extensive news coverage. Panic buying, buying more food than usual, avoiding in-store shopping and using online delivery and pick-up services were all well-used practices during 2020–21 (Chenarides Et Al., 2021). COVID-19 has caused a shift in

household consumption and spending habits in relation to food (Criteo Coronavirus Survey, 2020).

Supermarkets are the dominant format of grocery retailing in the UK (Wrigley Et Al., 2009; Degeratu Et Al., 2000; Miller, 1997). In many countries, including the UK, one of the only retail outlets open during lockdown was supermarkets (Martin-Neuninger And Ruby, 2020). Retail grocery sales have risen steeply since the first UK lockdown in March 2020 (Mckevitt, 2021). Similarly, the number of new supermarkets opening across the UK doubled in 2020, with the biggest increase in the East of England (Makwana, 2021).

Little is yet known about the effects of the pandemic on household food shopping practices (Leone Et Al., 2020). Emerging research indicates that after an initial period of 'stocking up' and buying more than usual, consumers have adopted new strategies including shopping less frequently – but buying more when they do go shopping, and buying more convenience foods (Faour-Klingbeil Et Al., 2021; Laguna Et Al., 2020). If practices like these become established in the longer term there may be negative impacts on dietary health inequalities, including obesity.

As a result of the pandemic, the food environment is changing and the ways in which people can interact with it have been severely disrupted. Large sections of the population now have less income than before, and food budgets have been reduced as a result. Combined, these represent a significant shift in the structural drivers of dietary health inequalities. From a public health and interventionist perspective, this paper aims to investigate: how residents in the East of England responded to changes in their local food environments (as a consequence of the mitigation measures); how they shopped for food during the COVID-19 pandemic; and the implications this has for their longer-term food practices, health and wellbeing.

2. Method

The findings presented are drawn from a larger qualitative study which aimed to understand how COVID-19 affected local food systems, household food practices and efforts to mitigate dietary health inequalities in the East of England (Thompson et al., 2020). From May 2020 to March 2021, we conducted remote semi-structured interviews with: i) individuals living in the East of England; and ii) professionals and volunteers providing support in relation to food access and/or dietary health in the region. Semi-structured interviews are suitable for collecting data on complex and sometimes sensitive topics, like feeding the family and food shopping, because it allows the researcher to collect open-ended data, to explore participant thoughts, feelings and beliefs about a particular topic and to delve deeply into practices and beliefs (Dejonckheere And Vaughn, 2019). A total of 65 participants were interviewed (38 residents and 27 professionals and volunteers).

See Supplementary File 1 for a completed COREQ (consolidated criteria for reporting qualitative research) checklist, in order to ensure comprehensive reporting of this qualitative study.

2.1. Study site and recruitment

All data were collected (remotely) in the East of England (see Fig. 1). The region covers Bedfordshire, Cambridgeshire, Essex, Hertfordshire, Norfolk and Suffolk. It is a diverse area covering costal, urban and rural settings. There is also a mixture of both socio-economically deprived and affluent areas (see Fig. 2).

The region's prevalence of both obesity and hospital admissions involving a diagnosis of malnutrition are higher than the national average (NHS Digital, 2020). The East of England also contains substantial local clusters of populations at a higher risk of food insecurity (Smith Et Al., 2018; BSNA, 2018).

Resident and professional/volunteer participants were recruited via the National Institute of Health Research (NIHR) Applied Research Collaboration (ARC) East of England website and on social media sites.
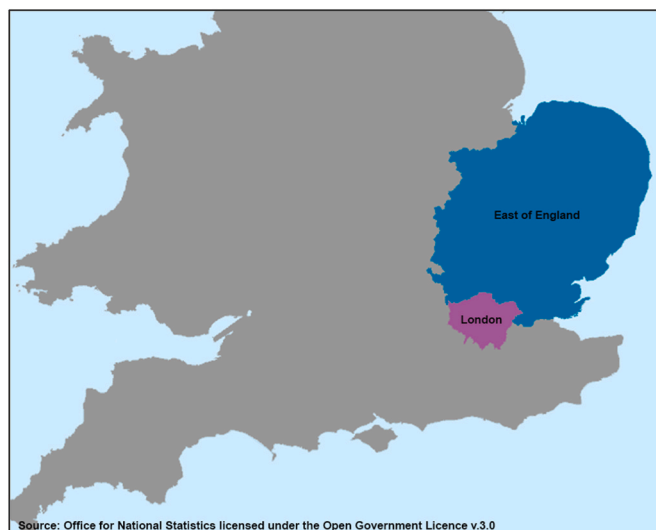

Fig. 1. Map of the East of England (blue) region, relative to England and London (purple).
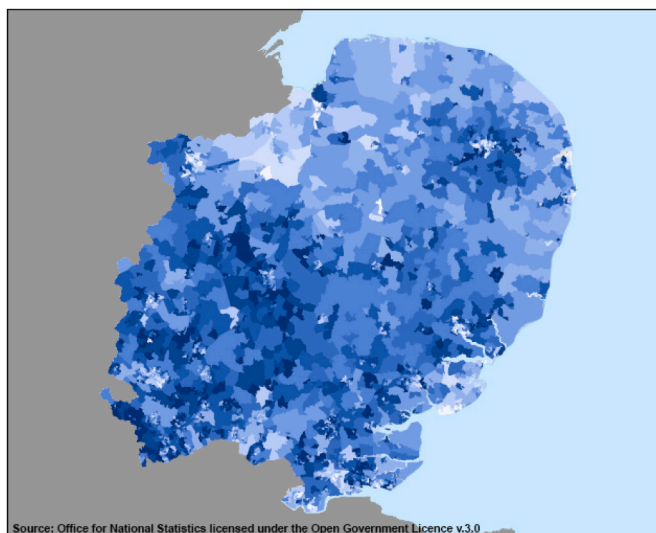

Fig. 2. Map of the East of England, highlighting areas of high (light blue) and low (dark blue) levels of relative socioeconomic deprivation, according to the Indices of Multiple Deprivation (Office For National Statistics, 2019).

The study was also shared amongst our academic and community networks, who passed the details to relevant individuals and community organisations, newsletters or their own social networks. Some hard copies of study information leaflets were also distributed to residents receiving food parcels through the local authority scheme in one county in the region. Potential participants resident in the East of England were directed to complete an online screening questionnaire to provide their contact details, postcode, working status, household composition and typical food shopping practices (for example, who does the food shopping for the household and whether or not they have food delivered). Where it was not possible for participants to complete the screening questionnaire themselves online it was completed by a member of the research team via the telephone with the participant, prior to the interview taking place.

2.2. Ethical issues and informed consent

Ethics approval for the study was granted by the [REMOVED FOR

REVIEW]. Participants were informed about what would happen to their data and their right to withdraw from the study. Informed consent was obtained from all participants. Where possible, participants were sent electronic consent forms to return via email. When this was not possible, consent forms were completed over the phone with a member of the research team. In these cases (n = 9), consent was given verbally, audio-recorded and the form signed electronically, by the researcher, on behalf of the participant.

2.3. Sample

The professional/volunteer participants were sampled for diversity, to ensure participation from a range of organisations and services (Table 1). We took a purposive approach to the resident sample (Table 2), with a focus on: households with infants and/or school-aged children; families eligible for free school meals (FSM); low-income households or those on state benefits; those aged 70 years+; households with people who were self-isolating or shielding due to a health condition; and households with key workers. Seventy-one residents and 36 professionals/volunteers were invited to take part or responded to our call for participants. Of which, 33 residents and 9 professionals/volunteers dropped out of the study before interview. Drop-out occurred due to changes in their circumstances, unforeseen time constraints, a change of mind and non-response for unknown reasons. Recruitment and data collection continued until similar themes started to emerge from new interviews (after 65 interviews: 38 with residents and 27 with professionals).

2.4. Data collection

Semi-structured interviews were conducted remotely via telephone or video call, lasting between 30 and 60 minutes. Participants were offered the option of either telephone or video call. We offered this choice in order to: (i) ensure that participants who did not have access to the necessary equipment or software required for video calls (e.g. laptop, Zoom) were still able to take part should they want to; and (ii) provide increased opportunities to build rapport that virtual face-to-face interactions via video calls (as opposed to telephone calls) allow. Six of the seven authors were involved in data collection (CT, LH, AD, EM, SR and RF – all female, academic researchers with PhDs and experience of using qualitative research methods).

Topic guides (see Supplementary File 2) were developed by the research team. We examined previous literature on food practices and used our own, collective, previous work on food shopping, food poverty, and food provisioning to further inform the guides. Our patient and public involvement (PPI) colleagues informed the design of the topic guides, fed back on drafts, and facilitated pilot interviews to further refine the questions (see Acknowledgements).

Resident interviews explored the perspectives and experiences of the pandemic and associated restrictions, general food practices, and changes to food routines as a result of COVID-19. Interviews with professionals/volunteers focused on understanding local provision for supporting dietary health before the pandemic, how these were

Table 1
Professional/volunteer participants groups (n = 27).

	Total
Community Meals	3 (11%)
Family Services	1 (4%)
Food Bank	6 (22%)
Health Visiting Service	2 (7.5%)
Local Authority	7 (26%)
Other Community Groups	3 (11%)
Other Volunteer (Food Shopping/Distribution)	3 (11%)
Schools & School Catering	2 (7.5%)
Total	27

Table 2
Resident participant groups (n = 38).

	Total	%
Family with Infant	6	16%
Family with school-aged children	11	29%
Key worker	3	8%
Low-income or state benefits	3	8%
Older person aged 70+ years	12	31%
Shielding or self-isolating [1]	3	8%
Total	38	100%

[1] Whereby the participant stated they were shielding due to a health condition or other related reason (not due to age). Excludes participants shielding in other groups: low-income n = 2 and school-aged children n = 1.

impacted by the restrictions, and how local communities responded to the crisis.

2.5. Data analysis

Interviews were audio-recorded, transcribed verbatim and pseudonyms were assigned to each participant. Anonymised transcripts were uploaded to the qualitative data management software NVivo and subject to thematic analysis (Braun And Clarke, 2014). Open coding was used to identify and categorise practices and episodes related to food and food shopping. Selective coding was used to identify the values and motivations that linked codes. We used open and then selective coding in order to: (i) facilitate the emergence of new theoretical possibilities and concepts (open coding); and (ii) integrate and pull together the developing analysis (selective coding) (Braun And Clarke, 2014).

A coding frame was developed by the research team (all seven authors: CT, LH, AD, RF, EM, SR and WW) and refined to capture the main concepts. This was achieved by each of the authors coding an initial subset of the transcripts and then comparing codes (combining, separating, and adding as necessary) during a series of coding meetings. The resulting coding frame helped to establish themes, describing sets of consistent practices in relation to food shopping (Aronson, 1994). All of the transcripts were then coded according to the coding frame by three of the authors (CT, LH and RF). An additional Research Fellow (HW, see Acknowledgements), with prior experience of qualitative methods, also assisted with coding the interview transcripts.

3. Findings

The pandemic presented a range of challenges for food shopping. There was a general and widespread claim from participants, that they were buying more food and spending more money on food shopping than they had done before COVID-19. As a result, people said they were much more aware of the amount of food they were buying and eating and were able to reflect on it in detail. Eating at home all or most of the time meant increased labour in terms of food provisioning, especially food shopping, for most households. The notable exception to this was some of the older people who lived alone. For them, staying indoors and social isolation reduced their interest in, and the quantity and quality of, the food they ate. Those on very low incomes, especially those reliant on welfare benefits, found it difficult to manage their food budget because they were unable to 'shop around' for the best prices at multiple stores. The in-store environment also became increasingly difficult for those with caring responsibilities and/or with health and mobility issues. Overcrowding, queueing, and hostility from other shoppers all made food shopping more difficult and strenuous.

Three distinct behavioural responses to these challenges emerged from the analysis: (1) changing supermarket shopping routines; (2) moving to online shopping; and (3) increased reliance on smaller local stores. These are described in the sections below.

(1) Changing supermarket shopping routines

Supermarket shopping continued to be the preferred or most dominant food shopping activity during the pandemic for many of the people we spoke to. However, shopping at the supermarket became more difficult, due to the restrictions, and was described as less safe, due to the risk of COVID-19 infection. To continue getting their food from the supermarket in a way acceptable to them, people needed to change their routines and practices. Broadly, participants reported trying to limit their frequency of shopping trips. They would go to the supermarket less often but bought more and 'stocked up' when they were there. For some, with access to a car, this included shopping for and delivering food to relatives and neighbours. Increased levels of planning were needed to successfully carry out supermarket food shopping. A mother of school-aged children, Juliette, who was shielding at various periods throughout the pandemic, explained that she was shopping less often but carefully planning and buying a lot more when she did go shopping:

"I would probably do a main shop in a supermarket on the Monday and then on a Thursday or Friday I'd pop to one of the cheapie shops like Home Bargains or wherever, sort of like on my lunch break at work and get a few extra bits … and just top up for the weekend … now I write a list and do one weekly shop … then I know exactly how much I'm spending. Whereas before when you are going into the shops two or three times a week you're not really keeping a track of what you are spending. So now I know exactly what I'm spending. I don't know if that's a good thing or not."

As can be seen in Juliette's account, the restrictions also hampered her ability to 'shop around' and go to different shops to get the best value and her preferred items.

In addition to frequenting or avoiding certain stores, some people changed the times they went shopping – going very early in the morning or later at night to avoid other shoppers or ensure that they arrived soon after the shelves were restocked. Impulse buying or 'popping out' to the shops was, at best, difficult and, at worst, impossible. Much more preparation was needed for food shopping. People planned meals well in advance and wrote shopping lists to make sure they got everything they needed without having to go out again. As one participant commented, they had become more 'regimented' in their approach. People also reported travelling further to larger, often out-of-town, stores because these stores stocked more produce and tended to be more spacious – making social distancing easier. Emma, a key-worker and mother of school-aged children, explained why she preferred larger stores:

"So now instead of going to small shops, like where we live … the supermarkets are quite a bit smaller, we, instead we are travelling further to go to the larger shops, because you can get everything you need at any one place, the aisles are wider, these sorts of things. It just gives you more of a sense of security."

Discount stores were sometimes perceived as less safe and less welcoming during the restrictions. Christine, who lives with mobility issues, explained why she favoured some stores and avoided others:

"*We also found that [Waitrose] … a very gentle atmosphere … being extremely sensible with their jobs, with shielding, I've just found it a much nicer place to shop … Mainly Sainsbury's for the same reason, there's more space in the aisles and the staff are less pushy towards an old lady with a walking stick who is struggling to do the shopping … And COVID has made shopping an unpleasant experience and I've been grateful to be at Waitrose where staff are still talking to people, because a lot of places people are … so frightened they've become angry and they will take it out on anyone around them for any reason, it's quite a volatile … And as you go lower down the financial chain and the food chain and the social chain it gets nastier and nastier. So there are places … I'm actively avoiding Aldi because there have been fights with the security guards outside about whether or not you go in with your children or whether or not somebody is well enough to go in or whether or not you should wait another five minutes in the rain.*"

3.1. The difficulties of changing supermarket shopping routines

Strategies such as travelling further, engaging in less frequent but more expensive shopping trips, and changing shopping times were not possible for everyone. Such practices typically required access to a car, or at least reliable public transport (which was sometimes not possible to access during the restrictions), mobility, sufficient funds, adequate food storage facilities at home, and a reasonably flexible schedule. For some people, going out shopping was difficult or impossible and went against advice to isolate and/or stay at home. There was a range of support provided to help with food shopping – both statutory and community –but this was not always easy to access or well-advertised. Adam, a local authority employee, helped to organise community support during the pandemic and explained the particular difficulties faced by older people who needed help with food shopping:

"[People ring up and tell me] that 'I'm over 70 and I shouldn't really go out and there's a lockdown and I'm too … frail to stand up in the queue for 40 minutes to get into the shop, then carry all my shopping because I can't get a taxi. All of those little things, well I usually get my pension to pay for my shop, but I can't go and collect my pension because the shop's shut and I can't queue outside'. So it's all of those little things that start to build up."

The restrictions in place in supermarkets around limiting the number of people instore at any one time and trying to maintain social distancing often meant that food shopping trips took a lot longer, involved lots of queuing and waiting outside, prevented people from going shopping together, and left people unable to sit down and rest or use the toilet in store (these facilities were suspended). Even getting to the shops to do the food shopping was difficult for those with caring responsibilities. Those being *cared for* were often in the 'shielding' category and were therefore not supposed to leave home. However, respite care to allow carers to go shopping was also typically suspended due to the mitigation measures. Taking the person they cared for with them was often not appropriate or even possible, nor could they be left at home alone, meaning carers faced multiple challenges. June, the manager of a carers' support group, outlined these challenges:

"*So people in their 50s that have dementia and … their carers, again, you know, shopping for them is huge because obviously they either have to have someone to come and sit with their, the person that they care for or take them with them and, you know, again Corona has had a huge impact on that because that's not easy to be taking someone out of their routine pattern because with dementia, the most, the more routine you can have, the better.*"

The coping strategies of changing shopping times and locations described above were not always possible for those engaged in complex care regimes. For instance, Lucy lived in a rural area and cared for her daughter with multiple health needs. To do her food shopping, Lucy needed an additional carer to help out, even if this meant leaving her other daughter at home to cover her care. When this was not possible, she tried to go shopping very early in the morning while her daughter was still asleep. Although this was far from ideal for the family:

"*Because Nicola my daughter has got Down's syndrome, it's a two-man job, one of you can't look after her on her own, you know she can't be left … you can't go to the toilet and leave her downstairs. There's got to be two people so she can go to the loo or get a drink or whatever. Yeah, so we went quite early in the morning while she was still in bed to avoid them having to cope too much.*"

(2) Moving to online shopping

For those who could not or did not want to leave home, shopping online (mostly from supermarkets for home delivery) was one option for

those who had the skills and resources to do so. It required access to a computer and the internet, IT and literacy skills, a bank or credit card with which to pay, and enough funds to meet the minimum purchase threshold for delivery (typically £40 - £80). At one point, there were also restrictions on the quantity of items you could purchase. Those who were shielding, caring and/or isolating could not leave their home, meaning some people started shopping online for the first time during the restrictions. As Adam, a local authority employee quoted above, explained *"the online shopping world is so hard to navigate if you've never done it before, then to get a slot was very difficult."*

Those who were shielding and had been identified by the Government as clinically vulnerable as per the national Shielded Patient List (SPL) were entitled to priority delivery slots with supermarket chains, but these were often unavailable at the start of lockdown. However, there was considerable confusion expressed about these services. People were unsure whether or not they were eligible for a priority delivery slot and there was uncertainty about how they could access these 'special slots' or how the supermarket would know they were eligible. Even for those who regularly did online shopping before the pandemic, it became much more difficult once the restrictions were introduced and demand increased. Participants from a variety of backgrounds expressed frustration at not being able to secure a delivery slot and food deliveries arriving with missing products or unsuitable substitutions. Some participants told us that they sat at the computer for hours on end, sometimes all night, trying to secure a delivery slot. This was particularly difficult for those with food allergies, health conditions, larger families, or those shopping for more than one household.

As with changes in practices when physically going to the supermarket, online shopping was used to 'stock up', bulk buy and to obtain food on behalf of relatives and neighbours – with a similar practice of shopping less often but making bigger orders. Aimee, a mother of school-aged children in receipt of free school meals, explained how her household's eating and shopping habits changed during the mitigation measures. As Aimee outlines, 'stocking up' typically meant opting for longer-life food that would see them through to the next shop, rather than fresh produce:

"So yeah, so we ate less takeaway, but … I think we ate more frozen and cupboard food because the Tesco deliveries were so hard to get and I was also shopping for my neighbour, she's over 60 and she's got lupus so it was really important that she didn't go out … And the Tesco shops were so difficult to get delivered that it was like let's stock up, let's have lots of freezer food and lots of cupboard food."

For those with access to a car, 'click and collect' (i.e. ordering food online then collecting from the store) was popular because it meant they were able to access food more quickly. These collection slots were sometimes easier to obtain than delivery slots and service charges were often cheaper or free. It also meant participants could combine their click and collect trip with other essential errands in the same locality.

Click and collect shopping during the restrictions could mean having to wait around at the store, sometimes for hours outdoors, until the order was ready to collect. Demand for these services was high and adherence to social distancing measures slowed the service down. In order to reserve a timely collection slot, it was sometimes necessary to select a store relatively far away if there were none available closer to home. As a result, having access to a car was typically necessary to make good use of this service. Those without the resources and skills to order online and/or without access to a car could find themselves at a disadvantage, which was often a problem for older people. Helen, who was retired and advised to stay at home (her age classified her as more vulnerable to COVID-19) was unable to drive or do online shopping:

"And this is why I find it difficult losing my [driving] licence, I can't really get to any big supermarkets or the corner store … No. Never ordered online. Don't really know how to work buying online, never bought anything online. I've always bought my own."

(3) Increased reliance on smaller local stores

The final shift in food shopping practices that emerged from the data was that of 'going local'. Whilst changing supermarket shopping habits and moving online allowed people to continue to access produce and services during the restrictions, it involved a lot more time, effort, and expense than households would normally expend on food shopping. An alternative strategy was to avoid supermarkets altogether – both physically and online – and rely more on local shops. Such outlets were within reasonable walking distance, were smaller and/or independent stores and some had delivery services. For some people it was an active decision to use these stores. The pandemic and the mitigation measures prompted some households to reassess their food practices, especially in relation to where they did their shopping, and made them think about what they would like to do differently. In these cases, the challenges of shopping at the supermarket during lockdowns further convinced them of the need to minimise their use of these spaces and engage more with local food environments and independent businesses. This was viewed positively and described as a healthier, more sustainable and ethical way of buying food. Sheila, a local community organiser, explained some of the positive changes she had seen in her local area:

"Because that's been another big change in the way that people do their shopping. So for example we've got loads more people now using a milkman, we've got a load more people now having their vegetables delivered to their door, even butchers delivering to people's houses. So in a way it's opened up a new way [of food shopping]. So it's not all negative about people, the way that they are eating, the way that they are shopping. And I think it's proved that you can eat in the same way or a better way but even by not going out getting your daily shopping."

In contrast to supermarket shopping practices during the pandemic, 'going local' often entailed shopping more frequently. People reported buying from a range of different local shops (including farm shops) and shopping little-but-often, with a preference for fresh produce. Anne, an older person living in a small town with her husband, was very positive about her change in routine:

"*One thing I have started doing more, we have a garden centre on the outskirts that also grows its own vegetables and has really nice meat and stuff and other good local produce, so I have been going there more than I was before.*"

Again, issues of inequality and resources differentiated how these practices were enacted. For some, especially those with lower incomes, shopping locally was less of a lifestyle choice and more of a necessity because they lacked the resources (e.g. a car) to go to large 'out-of-town' supermarkets. In particular, those without a car and living where public transport was less accessible, became more reliant on smaller local shops for their food shopping, as Ruth, who works for a local authority public health team, explained:

"A lot of people don't have cars to go drive to the big superstores. They're buying it a lot more expensively at the local shops and, you know, it's very difficult for some people."

Local food environments vary greatly. In less affluent areas there are generally fewer outlets that sell healthful or fresh produce. Added to which, the strategies described above – such as using butchers, 'milkmen', and having veg boxes delivered – tend to be more expensive and are not available in all areas. 'Going local' in a more socioeconomically deprived area could mean relying on convenience/express stores, corner shops, and petrol stations. As well as stocking a relatively small range of products and lacking in fresh produce, participants reported that these outlets were also more expensive. Rebecca, who had to manage on a reduced income during the restrictions, was so frustrated by the higher

prices charged at her local shop that she challenged the staff about it:

> "There is a local shop who was charging a fortune for certain things which I popped in a couple of times and just said to them you really shouldn't be doing it, it's not really right, but not … I wasn't buying those things particularly."

4. Discussion

This paper reports on how residents in the East of England responded to changes in their local food environments and how their food shopping practices changed as a result of the pandemic mitigation measures. While supermarket shopping continued to be the preferred or most dominant food shopping activity, people were forced to adapt the way they used these spaces by varying shopping times, shopping for others, and reducing the frequency of shopping trips. Stocking-up and buying more food than usual was frequently used to offset these changes. Online shopping was a popular and necessary alternative to shopping in-store, but this excluded groups without the necessary resources or skills and frustrated those who had to try to deal with existing systems that could not cope with the increased demand.

4.1. Study limitations

This paper does not address or describe the range of community and statutory schemes that were supporting local people to access food. Nor does it examine the important role that food parcels and help from food banks played in getting food to people who simply could not access or afford enough (or any) food from other means. We did collect data on these issues and acknowledge the food work done by support organisations across the region. However, there was not the scope to explore it within this paper.

The study was both cross-sectional and virtual (i.e., remote interviews online). We only spoke to each participant once and, due to COVID-19 restrictions, we were unable to meet with participants in person or observe their food shopping practices in real time (Thompson Et Al., 2013; Dickinson Et Al., 2021). A valuable piece of further research would be to follow-up participants post-pandemic to investigate to what extent they have maintained changes to their food shopping practices and to explore the impacts of these changes on health and wellbeing.

Despite these limitations the paper contributes to the emerging literature on food practices in the context of the pandemic with respect to: supermarkets, dietary inequalities and digital exclusion, and interactions with local food environments.

4.2. Contributions to the literature

As echoed by our findings, supermarkets remain the dominant choice of food retail for UK shoppers. The supermarket is central to the modern food shopping experience (Thompson Et Al., 2013; Dickinson Et Al., 2021; Bowlby, 1997). Supermarket shopping is entrenched in consumer culture and it is, perhaps, inevitable that supermarkets were granted 'essential' status during the pandemic, thus providing a legitimate reason for leaving the house. There remains a paucity of qualitative research on food shopping practices and explorations of how consumers make decisions in consumption spaces (Robson Et Al., 2020). This study partially addresses that gap by examining reported routine food shopping strategies and adaptations in response to COVID-19 restrictions. Further qualitative research is needed to understand how consumers experienced and responded to COVID-19 related changes to the in-store environment identified in quantitative studies, such as consumer (dis) empowerment, routine disruption, and emotional fallout (Brown and Apostolidis, 2022).

Online food shopping for delivery or collection rose sharply in 2020/21 (Chenarides Et Al., 2021). COVID-19 and the associated mitigation measures have accelerated the shift to online grocery provisioning. This shift will likely benefit affluent households at a faster rate than less affluent ones because they have the capacity to meet minimum spend requirements, pay delivery costs, and take advantages of cost savings associated with bulk buying (Cummins Et Al., 2020). This study highlights the experiences of those unable to access online food shopping, particularly older people, and explores the barriers they face. To date, most studies of online food shopping have focused on younger cohorts. There is limited research looking at older populations and what shapes their decisions to try (or not) online food shopping (Blitstein Et Al., 2020). Dickinson Et Al. (2021) found that none of the older people they studied before the pandemic used online shopping services, preferring in person shopping as it enabled social interaction and exercise opportunities. Understanding why some groups do not shop for food online and how digital exclusion impacts diet is key to informing interventions and planning to improve access to healthy and affordable food (Bezirgani And Lachapelle, 2021). The East of England includes rural and coastal areas that are not well served by food delivery services (Hart, 2021). This means that some groups are being excluded by both digital *and* geographical barriers, preventing them from accessing online food shopping.

One of the possible medium to long-term changes to the food system as a result of the pandemic is re-localisation. There has been an increase in the use of local food retailing as some households shop closer to home and source food from a wider range of retailers (Cummins Et Al., 2020). Our findings suggest that the potential re-localisation is having unequal impacts and could serve to further widen inequalities. In part, this can be explained by the ways in which lockdowns and social distancing affected the mode of transport used to travel to food retailers; with individual transport methods (especially walking and driving) favoured at the expense of public transport (which reduces capacity to remain socially distant) (Moslem Et Al., 2020). Mobility has changed as a result of the pandemic (Braut Et Al., 2022) and investment in public transport is necessary to reverse the polarised trends in localisation suggested by our findings, namely: those on lower incomes potentially remaining less able to travel, affecting their ability to access healthier food, while those living in higher-income neighbourhoods continue to benefit from better quality food environments. Research from Italy suggests that people living in areas with less access to quality foods were more likely to have poorer diets and less likely to experience improvements to their diets as a result of the mitigation measures – especially lockdowns (Pietrobelli Et Al., 2020).

In the UK, convenience stores (local stores which tend to stock less healthy and more expensive food) have reported a 39% increase in sales (Lee, 2020), which makes a strong case for targeted interventions in and around these outlets.

Interventions and programmes to tackle access and affordability of food in lower-income neighbourhoods have typically been in the form of either subsidised incomes (welfare benefits) or food being made available at reduced or no cost (typically from food banks or social supermarkets). More recently, policy makers have considered the manipulation of affordability through fiscal measures to promote healthier behaviours, such as the consumption of healthier foods (Monsivais Et Al., 2021). Post-COVID-lockdowns, a range of interventions to improve healthier food purchasing at local retailers have been identified, including healthy food subsidies, produce prescription (for fresh food) (Xie Et Al., 2021) and healthy community stores (Kaur Et Al., 2022). At present, evidence for the effectiveness of such community-based and local retailer interventions is limited by factors such as small sample sizes, limited follow-up, and limited measurement of dietary and health outcomes. Added to which, relatively little is known about the potential for healthy food subsidies to improve diets among the general population (Monsivais Et Al., 2021).

5. Conclusion

The COVID-19 pandemic has changed eating practices, food environments, and food shopping behaviours. The real challenge is to monitor whether these changes endure beyond the pandemic, as they look set to, and how they further amplify existing dietary health inequalities. Our research indicates, as with health and social inequalities more generally, that the food shopping practices of vulnerable groups has been disproportionately and negatively impacted by the pandemic and the resulting restrictions. Marginalised and vulnerable groups are more likely to live in poorer neighbourhood and the disadvantages arising from poorer quality environments in these neighbourhoods (including food environments) amplifies individual disadvantages and vulnerabilities (Nogueira Et Al., 2014).

There have been calls for the food industry to take action to help mitigate the impacts and make it easier and more affordable for people to buy healthier food. This may be necessary in order to repair some of the damage done in the pandemic-related shift towards greater consumption of highly processed long-life foods (Tan Et Al., 2020). Quantitative research reveals that, in British households, the substantial and persistent increase in calories consumed at home more than offset reductions in calories eaten out during 2020, with the largest increases reported in low-income households. Further, although quantity increased, there was little or no improvement in diet quality (O'Connell et al., 2022). The retail food environment is both shaped by and responsive to consumer food shopping practices and preferences. Interventions to regulate food environments and increase access to affordable healthy food will be key to recovering from the pandemic and promoting public health.

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Appendix A. Supplementary data

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